THE REPORT

OF THE

PRESIDENT

OF

QUEEN'S COLLEGE, BELFAST,

FOR THE

YEAR ENDING MARCH 31, 1865.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:
PRINTED BY ALEXANDER THOM, 87 & 88, ABBEY-STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.
1865.

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THE REPORT

OF THE

PRESIDENT OF QUEEN'S COLLEGE, BELFAST,

FOR

THE YEAR ENDING MARCH 31, 1865.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

I have the honour to submit to your Majesty my Annual Report regarding the progress and condition of this College for the year ending the 31st of March, 1865. It affords me renewed satisfaction again to record the steady advancement in the number of students present at Lectures, the unflagging earnestness and success of the Professors in the discharge of their various important duties, and the general devotedness of the students, with very rare exceptions, to their studies, in the different departments of the College.

Through the labours and accuracy of the Registrar, I have been enabled to present four Tables, which will give a complete return of the number of students and their denominations, who have entered the College in each year since its opening, of the number and religions persuasions of those attending in each Session, and also of the numbers who have annually attended the Lectures of each Professor. Some most satisfactory results arise from a comparison of these statistics. It appears that 1,632 individual students have entered the College since its opening; that the numbers attending annually have risen steadily since the year 1853, when 154 were on the rolls, till the present Session, when there have been present at Lectures 405; that of the 135 students who entered for the first time this year, 108 were matriculated and only 27 non-matriculated; and that there has been an increase in the present, as compared with the preceding Session, of 18 students.

I.—NUMBERS and RELIGIOUS PERSUASIONS of STUDENTS who have entered QUEEN'S COLLEGE, BELFAST, in each year since its opening.

SESSIONS.	Matriculated.	Non-Matriculated.	Total.	Established Church.	Roman Catholic.	Presbyterian.	Methodist.	Independent.	Various.	Total.
1849–50, . .	90	105	195	33	5	145	4	1	7	195
1850–51, . .	51	42	93	15	7	68	1	–	2	93
1851–52, . .	42	40	82	25	7	47	2	–	1	82
1852–53, . .	31	23	54	16	7	28	2	–	1	54
1853–54, . .	39	23	62	14	5	36	3	–	4	62
1854–55, . .	41	38	79	13	6	56	2	–	2	79
1855–56, . .	33	29	62	17	5	36	2	2	–	62
1856–57, . .	40	28	68	18	4	40	1	–	5	68
1857–58, . .	43	28	71	8	6	55	2	–	–	71
1858–59, . .	51	37	88	24	8	51	4	1	–	88
1859–60, . .	66	24	90	14	6	64	4	–	2	90
1860–61, . .	96	41	137	29	13	85	3	–	7	137
1861–62, . .	114	38	152	27	5	101	6	3	10	152
1862–63, . .	115	22	137	23	12	92	5	–	5	137
1863–64, . .	109	18	127	25	5	86	3	1	7	127
1864–65, . .	108	27	135	22	6	97	3	–	7	135
	1,069	*563	1,632	323	107	1,087	47	8	60	1,632

The large number in the first year is accounted for by the fact that many students waited two years for the opening of the College, while some came from other Colleges to complete their courses. The College came into its normal condition three years afterwards, namely, in the Session 1852–53, from which period there has been a steady increase of students, so that the numbers in attendance during the present Session stand at 405.

II.—NUMBERS and RELIGIOUS PERSUASIONS of STUDENTS attending Lectures in QUEEN'S COLLEGE, BELFAST, in each Session from its opening.

SESSIONS.	Matriculated.	Non-Matriculated.	Total.	Established Church.	Roman Catholic.	Presbyterian.	Methodist.	Independent.	Various.	Total.
1849–50, . .	90	105	195	33	5	145	4	1	7	195
1850–51, . .	110	75	185	33	10	136	4	1	1	185
1851–52, . .	120	69	189	40	14	129	5	–	1	189
1852–53, . .	101	53	154	33	15	100	4	–	2	154
1853–54, . .	114	54	168	36	14	107	6	–	5	168
1854–55, . .	118	65	183	34	14	131	3	–	1	183
1855–56, . .	119	74	193	33	19	131	5	2	3	193
1856–57, . .	136	58	194	35	14	131	3	2	9	194
1857–58, . .	153	54	207	31	14	154	4	1	3	207
1858–59, . .	160	63	223	45	14	153	8	2	1	223
1859–60, . .	199	58	257	43	16	184	8	2	4	257
1860–61, . .	239	73	312	57	22	216	7	–	10	312
1861–62, . .	299	78	375	59	17	256	13	4	16	375
1862–63, . .	335	53	388	61	24	275	11	3	14	388
1863–64, . .	340	47	387	63	26	261	10	3	24	387
1864–65, . .	356	49	405	58	22	285	9	1	30	405

* Of the 563 who entered as non-matriculated Students, 92 afterwards passed a matriculation examination. The College Register contains 1,161 matriculated and 471 non-matriculated, in all 1,632 students.

III.—Return showing the Number of Students attending the Lectures of each Professor in each year since the opening of the College.

Professor of	1849-50.	1850-51.	1851-52.	1852-53.	1853-54.	1854-55.	1855-56.	1856-57.	1857-58.	1858-59.	1859-60.	1860-61.	1861-62.	1862-63.	1863-64.	1864-65.
Greek,	71	74	46	23	32	38	43	36	44	58	77	100	140	157	120	133
Latin,	63	72	44	25	32	35	40	29	44	54	72	94	139	149	113	118
Mathematics,	86	70	51	36	42	44	45	52	55	62	78	95	106	122	111	113
English,	52	46	53	35	44	44	51	43	56	65	73	100	116	135	125	128
Modern Languages,	62	56	41	31	34	52	43	52	56	63	78	150	177	150	125	146
Celtic,	The	Lect	ures	open	to	the	pub	lic.							Vac	ant.
Natural Philosophy,	48	43	61	29	40	35	35	37	43	34	46	95	95	104	106	102
Natural History,	12	49	75	52	58	68	58	69	62	87	84	77	77	83	112	121
Mineralogy,	—*	6	14	13	15	13	9	20	13	11	16					
Logic and Metaphysics,	3	—	45	39	44	45	43	51	46	54	44	79	106	114	103	91
Chemistry,	40	56	75	53	62	70	60	76	68	88	99	82	106	101	104	122
Engineering,	10	13	15	9	12	12	8	17	16	11	16	13	16	26	33	34
Agriculture and Medical Jurisprudence,	13	21	24	14	22	17	16	20	25	22	27	21	24	22	— 25	— 30
Anatomy,	35	44	55	61	53	63	65	46	52	68	81	101	107	105	114	132
Medicine,	9	17	17	12	15	18	33	27	19	22	29	25	42	27	36	44
Surgery,	24	15	26	29	28	30	48	32	30	29	39	51	53	54	47	50
Midwifery,	14	10	12	16	17	18	24	13	7	17	14	26	36	22	34	19
Materia Medica,	11	14	16	17	17	23	25	11	18	22	27	33	38	37	29	38
English Law,	17	16	17	15	11	15	10	14	12	13	11	16	14	12	12	14
Jurisprudence,	11	11	23	10	19	11	15	12	27	20	23	19	20	29	27	31

This return is given more fully in detail in the Appendix, pp. 4, 5.

The return of Lectures delivered in each Session appears in pp. 11, 12 of the Appendix.

The returns from most of the departments show a very progressive and encouraging advancement. The Medical School embraced during this Session 151 students, whereas at the opening of the College it consisted of 55. The School of Anatomy has had an attendance this Session of 132 men.

IV.—Return of the Number of Medical Students in attendance in each Session.

Session.	Matriculated.	Non-Matriculated.	Total.	Session.	Matriculated.	Non-Matriculated.	Total.
1849–50,	28	27	55	1857–58,	35	32	67
1850–51,	20	35	55	1858–59,	45	34	79
1851–52,	25	39	64	1859–60,	56	39	95
1852–53,	29	33	62	1860–61,	70	46	116
1853–54,	29	37	66	1861–62,	81	48	129
1854–55,	39	36	75	1862–63,	89	33	122
1855–56,	33	48	81	1863–64,	110	33	143
1856–57,	36	25	61	1864–65,	126	25	151

It will be seen from the Appendix No. II., that the number of anatomical students during the past wintor has been more than double the number attending in any year previously to 1860–61; and as there has been crowding where it is necessary for health that there should be abundant space, I look with great satisfaction upon the prospect of the early completion of the additions to the dissecting-room, wisely provided by your Majesty's Government.

The Tables of the religious persuasions, taking into account the provision made in other Colleges of a kind more or less adapted to the peculiarities of denominational creeds, will prove that united education has been tested within these walls, as it is yearly in the other Queen's Colleges, as well as within the halls of the Queen's University, and has been found perfectly practicable and highly beneficial.

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* Public.

The different examinations of the College for matriculation, scholarships and prizes, were held at the periods prescribed in the Calendar, and I have received reports from the several Professors to the effect that the students generally are advancing in their preparation for these frequent and testing examinations; and that these various and important honors were ardently competed for, and in many cases narrowly won.

I beg most respectfully to return my humble thanks to the members of your Majesty's Government, both in England and in Ireland, who have received my applications and granted my requests for providing increased accommodation for some departments of this College. The School of Engineering is now furnished with a new and excellent room; and as I have stated above, the medical buildings of the College much required great enlargement, and it is now secured; whilst, owing to a grant about to be made for building a new library and reading rooms, the great hall of the College, which is quite unsuited for a library, and rendered by the book-cases unfit for examination or for public collegiate meetings, will now be reconverted to the purposes for which it was originally intended. On the part of the authorities of the College, I have the honour to present our united gratitude that this urgent case has been so promptly considered. The measures adopted by the Lords of your Majesty's Treasury will, with the sanction of Parliament, secure the completion of the new library without any delay.

Grave instances of violation of order have rarely taken place within these walls. During this Session one of this nature occurred, and the Council felt bound to exercise their powers in sustaining the discipline of the College by inflicting on one of its students the punishment of rustication for the Session.

The Vice-Chancellor and Senate of the Queen's University in Ireland have published a detailed account of the degrees, diplomas, and certificates conferred on the students of the three Colleges in Dublin Castle in 1864. That return presents very remarkable and encouraging evidence of the prosperity and expansion of the University. For instance, I find that in October, 1860, 87 degrees and certificates were granted, whilst in October, 1864, 273 were conferred. The table stands thus:—

DEGREES, DIPLOMAS, CERTIFICATES, &c., conferred by the Queen's University in 1864.

38	degrees of	M.D.
4	„	ad eundem.
1	„	LL.B.
11	„	M.A.
58	„	B.A.
10	diplomas of	C.E.
1	„	E.L.
	In all	123

Also,

82 candidates passed the first University examination in Arts.
40 „ „ „ „ Medicine.
14 „ „ „ „ Engineering.
In all, ... 136

Also,

14 candidates obtained middle-class certificates, ... 14

Total, ... 273

At the examination for degrees and honors, students of this College did not fail to hold their proper place. These competitions in Dublin, amongst the alumni of the three Colleges, for graduation, and for the prescribed rewards, are most beneficial. Their influence is felt and acknowledged throughout the ranks both of Professors and Students. In the halls of the Queen's University, and of its affiliated Colleges, the effect of Sir Robert Peel's noble and successful exertions to stimulate and reward talent, has created an amount of rivalry which has advanced graduation, and secured a combination of interest and sentiment which it would have been impossible otherwise to have obtained.

The Sullivan Exhibitions, and those also of Mr. Robert Mackay Wilson, granted to this College, have been disposed of in accordance with the generous desires of their founders, and they have afforded great benefit to those who obtained them.

I subjoin a list of the students of this College who obtained the Peel, Sullivan, and Wilson Exhibitions.

Of the prizes awarded out of Sir Robert Peel's fund the following were obtained by students of this College:—

£20 for 3 years, by Mr. James Torrens, first honor at the previous examination in arts.
£15 for 3 years, by Mr. William M'Mordie, second honor at the previous examination in arts.
£10 for 3 years, by Mr. William M'Mordie, at the same examination.
£15 for 2 years, and £10 for the 3rd year, by Mr. Edward M'Kean, third honor at the previous examination in arts.
£20 for 2 years, by Mr. John Campbell, at the previous examination in engineering.

Of the prizes to be competed for by graduates and undergraduates of all the Colleges, Mr. Thomas Houston obtained the first, and Mr. W. H. Kisbey the second; while Mr. J. W. Craig obtained the first, and Mr. Thomas Day Bottomley the second prize at entrance in English Literature; and at the same examination Mr. James Owen Wylie obtained the first, and Mr. John Wilson the second prize in Geometry.

Dr. Sullivan's Exhibition of £15 for three years to a student from the Belfast Institution, was conferred on Mr. Robert Morrow; and Mr. Wilson's Exhibitions of £10 each were conferred upon Mr. J. Millar and Mr. J. Marshall.

The sum of £1,500 granted annually to this College for scholarships and prizes from the Consolidated Fund, has been appropriated after severe competitive examinations at the beginning and end of the session. £1,000 a year still remain to the College for the extension of the libraries, museums, and its general maintenance; but I cannot cease to regret that the arrangement to meet the just and necessary augmentation of the salaries to the Professors involved a reduction of the sum originally granted of £1,600 per annum, to the sum above named. In common with the Presidents of the other Colleges, I used my best exertions to secure this augmentation, but it would have afforded much greater satisfaction had it been drawn from some other source. I hope to see the still remaining sums of £1,000 a year to each College soon raised to an annual grant of the original £1,600, for the purpose of rendering the libraries, laboratories, and museums suitable to the science and literature of the age, and the permanent and still increasing wants of the country at large.

In various departments of the public service the students of Belfast College continue to obtain valuable and lucrative places. The history of some of them at home and abroad is quite remarkable, on account of the adaptation they have shown for their particular employments, of their rapid promotion, through the recommendation of their superiors, as well as of the unabated affection many of them continue to evince towards their relations and their former instructors and fellow-students here. Many most interesting details in these respects have come under my own observation.

Annexed is a full Appendix, giving an account in detail of the number of students in each class, the number of lectures delivered by each Professor, with a digest of the various subjects and courses of lectures, the papers used at the matriculation, scholarship, and class examinations, the Bursar's account of the expenditure of the College, with the fees received, and other information, as appears by the Table of Contents, p. ii.

All of which is testified on behalf of this College by your Majesty's most dutiful servant,

P. SHULDHAM HENRY.

QUEEN'S COLLEGE, BELFAST,
12th May, 1865.

APPENDIX.

APPENDIX, No. 1.

Appendix,
No. 1.

Queen's College, Belfast, and Queen's University.

Queen's College, Belfast, and Queen's University.

The College is a Corporation under the name and style of "Queen's College, Belfast." It was founded under the provisions of the Act 8 & 9 Victoria, cap. 66, intituled "An Act to enable Her Majesty to endow new Colleges for the Advancement of Learning in Ireland." Under the powers given by this Act, it was determined to found three Colleges. Belfast, Cork, and Galway, were selected as the sites of these Colleges, and on the 30th day of December, 1845, letters patent were issued, incorporating them. The Presidents and Vice-Presidents of the three Colleges were formed into a Board, called "The Board of Queen's Colleges," for the purpose of drawing up the statutes and arranging the system of education to be pursued in them.

On the 4th of August, 1849, the Professors were appointed, and the Colleges opened for the reception of students on the 30th October, in the same year.

Letters patent, constituting the statutes, were issued on the 11th of December, 1849, and a further charter was issued in the year 1863.

The Council of the College.

The President.
The Vice-President.
P. Redfern, M.D., Professor of Anatomy.
J. Purser, M.A., Professor of Mathematics.
G. L. Craik, LL.D., Professor of History and English Literature.
C. MacDouall, LL.D., Professor of Greek.
Wyville Thomson, LL.D., Professor of Natural History.
John Creery Ferguson, M.B., Professor of Medicine.

Professors.

The Greek Language, . .	Charles MacDouall, LL.D., M.R.A.S.
The Latin Language, . .	William Nesbitt, M.A.
History and English Literature,	George Lillie Craik, LL.D.
Modern Languages, . .	Wilhelm Frädersdorff, LL.D.
The Celtic Languages, . .	[Vacant.]
Mathematics, . . .	John Purser, M.A.
Natural Philosophy, . .	John Stevelly, LL.D.
Chemistry, ...	Thomas Andrews, M.D., F.R.S., M.R.I.A.
Natural History, . . . Mineralogy and Geology,	Wyville Thomson, LL.D., F.R.S.E., F.G.S., M.R.I.A.
Logic and Metaphysics, .	Rev. James M'Cosh, LL.D.
Civil Engineering, . .	James Thomson, C.E., A.M.
Agriculture, ...	John F. Hodges, M.D., F.C.S.
Anatomy and Physiology, .	Peter Redfern, M.D. Lond., F.R.C.S.
Practice of Medicine, . .	John Creery Ferguson, A.M., M.B.
Practice of Surgery, . .	Alexander Gordon, M.D.
Materia Medica, . . .	James Seaton Reid, M.D.
Midwifery, ...	William Burden, M.D.
English Law, . . .	Echlin Molyneux, A.M.
Jurisprudence and Political Economy, . . .	T. E. Cliffe Leslie, LL.B.

Appendix, No. 1.

Queen's College, Belfast, and Queen's University.

Office Bearers.

Curator of Museum,	The Professor of Mineralogy and Geology.
Registrar,	Rev. Richard Oulton, B.D.
Librarian,	Rev. George Hill.
Bursar,	Alexander Dickey, Esq.

Deans of Residences.

United Church of England and Ireland,	Rev. Henry Murphy, A.M.
General Assembly of the Presbyterian Church in Ireland,	Rev. Henry Cooke, D.D., LL.D.
Irish Association of Non-Subscribing Presbyterians,	Rev. John Porter.
Wesleyan Methodists,	Rev. Daniel Macafee.

The students of the College are either Matriculated or Non-matriculated. All the courses for Matriculated students in Arts, including the Department of Civil Engineering, and also in the Faculties of Medicine and of Law, will be found in the Calendar, which is published annually.

Non-matriculated students, on paying the regulated class fees, and signing an engagement to observe order and discipline in the College, are permitted, without undergoing a preliminary examination, to attend any separate course or courses of Lectures; but are not permitted to become candidates for Scholarships or Prizes, or to enjoy other privileges of the Matriculated students.

Students in any of the Faculties can be admitted *ad eundem* from the other Queen's Colleges, or from any University capable of granting degrees.

Collegiate Scholarships.

In the Faculty of Arts—30 Junior Scholarships, of £24 each, are awarded to Undergraduates—15 for proficiency in Literature, and 15 for proficiency in Science; also, 3 Senior Scholarships, of £40 each, to Graduates, one being limited to students who have also completed the course for the degree of LL.B.; and 5 Scholarships, of £20 each, to Engineering Students.

In the Faculty of Medicine—8 Junior Scholarships, of £25 each, are awarded.

In the Faculty of Law—3 Junior Scholarships, of £20 each, are awarded.

Scholarships awarded in the several Faculties, 1863–64.

7 Senior Scholarships awarded.
31 Junior Scholarships in Arts awarded.
5 Engineering Scholarships.
8 Medical Scholarships.
3 Law Scholarships.

1864–65.

7 Senior Scholarships awarded.
20 Junior Scholarships in Arts awarded.
4 Engineering Scholarships.
8 Medical Scholarships.
3 Law Scholarships.

By an order of Her Majesty in Council, of 21st May, 1855, applying to the Civil Service, it is ordained that "every person nominated to a junior situation should obtain a certificate of qualification before entering on his duties. The ordinary classes in Queen's College embrace the branches required in the Examinations for the Civil Service, and also in the Examination for students intending to become candidates for commissions in the Royal Artillery and Engineers, and for appointments to the Civil Service of India, both of which are now thrown open to public competition.

Appendix, No. 1.

Queen's College, Belfast, and Queen's University.

Queen's University in Ireland.

The charter founding the Queen's University in Ireland received the Royal sanction in the year 1850, and it provides that its Senate should have the power of conferring upon the students of the Queen's Colleges of Belfast, Cork, and Galway, such degrees and distinctions, in the Faculties of Arts, Law, and Physic, as are granted and conferred in other Colleges and Universities of Great Britain and Ireland. It further ordains that any of the students of the three Queen's Colleges, who shall have obtained such degrees in any of the several Faculties of Arts, Medicine, and Law, as shall be conferred by the Chancellor and Senate of the Queen's University, shall be fully possessed of all such rights, privileges, and immunities, as belong to similar degrees granted by other Universities or Colleges, and shall be entitled to whatever rank and precedence is derived from similar degrees granted by other Universities.

By the charter of the Queen's University, candidates for Degrees in Medicine are required to have attended *at least one-third of the courses of Medical Lectures* in some one of the Queen's Colleges. For the remainder of the courses of Medical Lectures, authenticated certificates will be received from the Professors or Lecturers in Universities, Colleges, or Schools, recognised by the Senate of the Queen's University in Ireland.

The Chancellor and Senate also have the power of admitting, by special grace, Graduates of other Universities to similar and equal degrees.

In order to obtain a degree or diploma in the Queen's University it is necessary to enter the College as a Matriculated Student, to pass the entrance or Matriculation Examination, and to pursue a fixed course of study.

The Matriculated Students may be classified as follow:—

I. Those intending to proceed to the Degrees of A.B. and A.M.
II. „ „ Degree of M.D.
III. „ „ Diploma of Elementary Law.
IV. „ „ Degrees of LL.B. and LL.D.
V. „ „ Diploma of Civil Engineering.
VI. „ „ Diploma of Agriculture.

The Senate.

Chancellor.—The Right Honorable George William Frederick Earl of Clarendon, K.G., G.C.B., &c.

Vice-Chancellor.—The Right Hon. Maziere Brady, Lord Chancellor of Ireland, M.R.I.A., &c.

The Right Honorable William Earl of Rosse, K.ST.P., M.R.I.A., &c.
The Right Honorable Thomas Spring, Baron Monteagle of Brandon, M.A., F.R.S., Member of Senate of University of London, Comptroller of the Exchequer.
The Right Honorable Francis Blackburne, Lord Justice in Appeal, LL.D., V.C.T.C.D., M.R.I.A.
The Right Honorable David R. Pigot, Lord Chief Baron of the Exchequer, M.R.I.A., &c.
The Rev. P. Shuldham Henry, D.D., President Queen's College, Belfast.
Sir Robert Kane, F.R.S., M.R.I.A., &c., President Queen's College, Cork.
Edward Berwick, Esq., President Queen's College, Galway.
Sir Richard Griffith, Bart., LL.D., M.R.I.A., Commissioner of Public Works.
Dominic J. Corrigan, M.D., M.R.I.A., Physician in Ordinary to the Queen in Ireland.
Major-General Sir Thomas Aiskew Larcom, R.E., K.C.B., LL.D., F.R.S., M.R.I.A., &c.
James Gibson, A.M., M.R.I.A., Barrister-at-Law.
Robert Andrews, Q.C., LL.D.
The Right Honorable James Henry Monahan, Lord Chief Justice of the Common Pleas.
Robert Adams, A.M., M.D.
The Right Honorable Sir Robert Peel, Bart., M.P.

Secretary.—G. Johnstone Stoney, M.A.—Office, Dublin Castle.

The Senate holds its sitting in Dublin Castle, where the examinations of the students of the three Colleges, for Graduation and University Exhibitions, are annually conducted by Examiners appointed by the Senate from year to year.

APPENDIX, No. 2.

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year.

CLASS.	SESSION.							
	1849-50	'50-51.	'51-52.	'52-53.	'53-54.	'54-55.	'55-56.	'56-57.
Greek—1st year,	71	47	28	16	21	26	29	24
,, 2nd ,,	–	27	18	7	11	12	14	12
,, Higher,	–	–	–	–	–	–	–	–
Latin—1st year,	63	45	27	19	21	24	27	19
,, 2nd ,,	–	27	17	6	11	11	13	10
,, Higher,	–	–	–	–	–	–	–	–
The English Language,	52	46	28	20	24	28	31	24
History and English Literature, Senior ,, ,,	–	–	25	15	20	16	20	19
Modern Languages (French, German, Italian),	62	36	41	27	34	37	29	40
Senior ,,	–	20	28	16	15	15	19	12
The Celtic Languages,	*The Lectures in each Session open to the Public.*							–
Mathematics—1st year,	86	58	40	25	29	33	30	35
,, 2nd ,,	–	12	11	11	13	11	15	17
,, Higher,	–	–	–	–	–	–	–	–
Nat. Philosophy—Higher Class,	–	–	–	–	–	6	6	8
,, Mathematical Physics, &c.	32	32	46	24	29	23	24	19
,, Experimental Physics,	48	59	57	29	40	34	36	37
,, Practical Mechanics,	7	3	6	3	4	3	3	2
Chemistry,	37	53	63	44	51	60	50	70
Practical Chemistry,	6	7	14	10	15	14	12	10
Laboratory,	–	6	8	8	9	9	10	15
Zoology,	12	34	35	29	31	43	31	43
Botany,	12	49	46	35	37	46	36	44
Physical Geography,	–	–	29	17	21	19	20	21
Logic,	3	–	27	17	21	26	20	27
Metaphysics,	–	–	18	15	16	11	17	20
Higher Logic and Metaphysics,	–	–	6	7	7	8	6	7
Mineralogy and Geology,	*Public.*	6	14	13	15	13	9	20
Surveying,	10	9	9	6	6	9	4	–
Civil Engineering,	–	4	6	3	4	3	4	17
Theory of Agriculture,	11	8	7	2	6	5	5	4
Practice of Agriculture,	–	5	3	2	5	5	1	1
Diseases of Farm Animals,	–	5	3	2	5	5	1	1
Medical Jurisprudence,	2	8	14	10	13	8	10	15
Anatomy,	25	36	48	45	44	51	44	39
Practical Anatomy,	27	32	35	49	41	46	53	33
Practice of Medicine,	9	17	17	12	15	18	33	27
Practice of Surgery,	24	15	26	29	28	30	48	32
Materia Medica,	11	14	16	17	17	23	25	11
Midwifery,	14	10	12	16	17	18	24	13
Law of Property, Equity of Bankruptcy, Common and Criminal Law, Evidence and Pleading,	17	16	17	15	11	5	10	14
Jurisprudence and Political Economy, Arts,	–	–	12	2	9	6	8	2
Civil Law, Constitutional, Colonial, and International Law, Jurisprudence,	11	11	13	8	10	5	9	10
Arabic,	–	–	–	–	–	–	–	–
Hindustani,	–	–	–	–	–	–	–	–
Sanskrit,	–	–	–	–	–	–	–	–

APPENDIX, No. 2—*continued.*

RETURN of the NUMBER of STUDENTS attending each CLASS in the Queen's College, Belfast, in each Year—*continued.*

CLASS.	SESSION.							
	'57–58.	'58–59.	'59–60.	'60–61.	'61–62.	'62–63.	'63–64.	'64–65.
Greek—1st year,	31	36	45	69	81	83	66	79
,, 2nd ,,	13	17	23	25	49	63	44	40
,, Higher,	–	5	4	4	7	7	9	12
Latin—1st year,	33	34	46	69	84	83	65	78
,, 2nd ,,	11	18	22	23	49	60	40	33
,, Higher,	–	2	8	2	6	6	8	7
The English Language,	36	41	49	72	85	85	70	80
History,	20	24	24	28	5	8	6	4
English Literature,					30	41	52	48
Modern Languages (French, German, Italian),	40	50	76	140	124	110	99	110
Senior ,,	16	13	17	10	54	43	26	36
The Celtic Languages,	*The Lectures in each Session open to the Public.*						–	–
Mathematics—1st year,	39	45	61	83	93	102	85	92
,, 2nd ,,	18	14	13	13	13	15	20	17
,, Higher,	–	4	6	3	–	5	6	4
Nat. Philosophy—Higher Class,	7	4	9	–	–	–	–	5
,, Mathematical Physics, &c.	26	25	24	64	67	72	69	60
,, Experimental Physics,	41	28	42	87	86	94	95	87
Natural Philosophy applied,	7	3	4	4	–	2	5	6
Chemistry,	60	74	81	64*	89	89	81	93
Practical Chemistry,	11	14	21	21	20	24	28	44
Laboratory,	10	11	10	12	15	15	8	14
Zoology,	34	63	56	37*	57	66	90	82
Botany,	34	62	55	40*	56	62	90	92
Physical Geography,	28	23	28	80	7†	7	–	–
Logic,	22	29	29	35	65	86	57	49
Metaphysics,	15	19	15	24	22	34	40	40
Higher Logic,	9	8	–	–	10	12	25	14
Mineralogy and Geology,	13	11	16	7‡	11	10	12	14
Engineering, 1st year,	7	7	12	9	10	11	15	15
Engineering, 2nd year, lectures,	7	3	4	4	6	11	8	12
Engineering, 2nd year, practice,								12
Engineering, 3rd year, lectures,	–	–	–	–	–	3	7	7
Engineering, 3rd year, practice,								7
Theory of Agriculture,	7	7	7	6	6	6	–	–
Practice of Agriculture,	3	1	4	3	1	–	–	–
Diseases of Farm Animals,	4	2	3	2	1	–	–	–
Medical Jurisprudence,	18	13	17	14	18	16	25	30
Anatomy,	39	59	60	86	83	83	87	93
Practical Anatomy,	41	44	62	80	85	91	97	125
Practice of Medicine,	19	22	29	25	42	27	36	44
Practice of Surgery,	30	29	39	51	53	53	46	48
Materia Medica,	18	22	27	33	38	37	29	38
Midwifery,	7	17	14	26	36	22	34	19
Law of Property,	12	13	16	16	14	12	12	14
Equity and Bankruptcy,								
Common and Criminal Law,								
Evidence and Pleading,								
Political Economy, Arts,	18	9	7	10	8	18	17	20
Civil Law; Constitutional, Colonial, and International Law; Jurisprudence,	10	11	17	10	12	11	10	11
Arabic,	–	–	1	–	–	–	–	–
Hindustani,	–	–	2	3	2	3	–	–
Sanskrit,	–	–	6	3	4	5	4	4
Operative Surgery,	–	–	–	–	–	11	2	–

* No Arts Students this Session, owing to change of Statutes.

† Not now required in third year Arts.

‡ No Engineering Students this Session, owing to change of Statutes.

APPENDIX,

Return of the Amount of Fees received by each

Professor of	1849-50.			1850-51.			1851-52.			1852-53.			1853-54.			1854-55.			1855-56.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Greek, . . .	*88	10	0	83	0	0	50	0	0	27	5	0	38	5	0	46	5	0	51	15	0
Latin, . . .	*73	15	0	79	0	0	50	10	0	31	5	0	38	5	0	44	5	0	47	15	0
English History and Literature, . .	50	6	0	50	5	0	47	10	0	31	5	0	43	5	0	45	5	0	59	5	0
Logic & Metaphysics,	6	0	0		-		† 59	5	0	34	5	0	37	15	0	41	0	0	41	15	0
Mathematics, . .	116	15	0	97	10	0	89	15	0	43	0	0	54	10	0	59	0	0	60	10	0
Natural Philosophy,	79	5	0	70	15	0	99	10	0	47	0	0	73	15	0	76	15	0	59	10	0
Chemistry, . . Practical Chemistry	85	6	0	104	0	0	117	5	0	91	10	0	111	10	0	131	15	0	105	10	0
Anatomy and Physiology, . Practical Anatomy,	143	0	0	170	0	0	195	15	0	230	10	0	228	0	0	250	0	0	256	0	0
Natural History and Botany, . .	20	10	0	69	0	0	70	15	0	50	15	0	55	0	0	76	15	0	59	10	0
Modern Languages,	97	0	0	84	0	0	63	0	0	50	0	0	81	0	0	85	0	0	74	0	0
Mineralogy and Geology, . . .		-		7	10	0	24	15	0	17	15	0	20	15	0	18	0	0	12	10	0
Jurisprudence and Political Economy,	20	0	0	21	0	0	35	15	0	18	15	0	28	0	0	14	10	0	29	5	0
English Law, .	32	0	0	29	0	0	37	0	0	23	0	0	20	0	0	16	0	0	21	0	0
Civil Engineering, .	16	0	0	24	10	0	22	0	0	14	0	0	17	15	0	21	0	0	13	10	0
Agriculture and Medical Jurisprudence,	15	10	0	41	0	0	49	5	0	22	0	0	46	0	0	82	15	0	26	0	0
Practice of Medicine,	17	0	0	31	0	0	32	0	0	18	0	0	30	0	0	30	0	0	58	0	0
Surgery, . .	41	0	0	21	10	0	36	0	0	51	0	0	43	0	0	43	0	0	74	0	0
Materia Medica, .	22	0	0	28	0	0	26	0	0	29	0	0	33	0	0	43	0	0	45	0	0
Midwifery, . .	28	0	0	18	0	0	22	0	0	27	0	0	31	0	0	33	0	0	44	0	0
Teacher of Drawing,		-			-			-			-			-			-			-	

* In the Session of 1849–50, Medical Students were required to attend the Greek and Latin Classes, but have since been exempt from attending either class.

† Professor M'Cosh was appointed in Session 1851–52, and taught and received fees from Students properly belonging to the previous Session.

Queen's College, Belfast, March, 1864.

Appendix, No. 4.

APPENDIX,

Expenditure of One Year's Additional Grant.

Account of the Expenditure of One Year's Additional Grant

1. Library of Ancient and Modern Literature and Philology:

	£	s.	d.
Ancient Classical Languages and Philology, ...	39	17	9
English History and Literature, ...	45	13	4
Foreign Modern Languages, ...	14	9	2
Works of General Interest, &c., ...	82	14	10
	182	15	1

2. Libraries, Museum, &c., Mathematical, Physical, and Chemical Sciences:

	£	s.	d.
Mathematical Library, ...	11	19	2
Physical Library, ...	1	6	0
Chemical Library, ...	14	17	6
Museum and Cabinet of Physical Science, . . .	1	7	0
,, Laboratory, Chemical Science, . . .	12	6	9
	41	16	5

No. 3.

Professor in the Queen's College, Belfast, in each Year.

1856-57.			1857-58.			1858-59.			1859-60.			1860-61.			1861-62.			1862-63.			1863-64.			1884-65.		
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
44	15	0	51	0	0	78	0	0	*98	5	0	*131	15	0	*186	0	0	*187	15	0	*221	0	0	233	10	0
89	15	0	53	0	0	67	0	0	†90	0	0	127	15	0	185	0	0	185	15	0	211	0	0	220	10	0
43	15	0	57	10	0	69	0	0	94	15	0	117	5	0	155	10	0	164	5	0	163	10	0	162	10	0
48	5	0	46	15	0	68	10	0	39	0	0	58	10	0	106	5	0	134	10	0	173	10	0	143	0	0
62	15	0	69	10	0	97	10	0	139	10	0	156	0	0	183	5	0	211	5	0	201	0	0	208	0	0
62	15	0	72	0	0	66	10	0	61	5	0	180	10	0	178	15	0	194	10	0	183	0	0	186	0	0
133	0	0	113	10	0	147	5	0	184	0	0	167	0	0	195	15	0	210	5	0	213	10	0	264	10	0
181	0	0	206	0	0	262	10	0	307	0	0	427	10	0	‡432	10	0	‡425	10	0	‡453	10	0	567	10	0
56	0	0	52	10	0	105	5	0	94	10	0	70	0	0	96	10	0	120	5	0	157	0	0	170	0	0
86	0	0	96	0	0	120	0	0	159	10	0	277	0	0	319	5	0	270	15	0	231	0	0	278	0	0
37	0	0	20	5	0	21	15	0	24	15	0	11	10	0	16	5	0	20	10	10	22	0	0	25	0	0
22	10	0	31	15	0	28	10	0	36	10	0	28	10	0	25	15	0	37	10	0	38	0	0	51	0	0
27	0	0	21	0	0	25	0	0	28	0	0	20	0	0	25	0	0	21	0	0	18	0	0	20	0	0
27	0	0	22	0	0	22	15	0	24	15	0	32	0	0	40	15	0	70	0	0	82	0	0	97	0	0
25	10	0	40	5	0	31	5	0	47	0	0	43	0	0	§44	0	0	§36	15	0	48	0	0	55	0	0
43	10	0	26	0	0	37	0	0	44	0	0	37	0	0	64	10	0	46	0	0	59	0	0	74	0	0
42	10	0	34	0	0	46	0	0	65	10	0	79	13	0	84	12	0	96	11	0	73	0	0	82	0	0
20	0	0	34	0	0	39	0	0	50	0	0	60	0	0	69	0	0	70	0	0	59	0	0	73	0	0
24	0	0	12	0	0	28	0	0	25	0	0	48	0	0	63	0	0	36	0	0	66	0	0	36	0	0
32	0	0	25	0	0	26	0	0	22	0	0		–			–			–			–			–	

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* Besides for Sanskrit and Hindustani 1859-60, £35; 1860-61, £22 10*s.*; 1861-62, £25; 1862-63, £32 10*s.*; 1863-64, £20; 1864-5, £20.

† Besides for Arabic in 1859-60, £5.

‡ The Professor of Anatomy pays to his Demonstrator a portion of the fees for Practical Anatomy.

§ No endowment for Medical Jurisprudence. Professor Hodges delivers the lectures, receiving only class fees.

ALEXANDER DICKEY, *Bursar*.

No. 4.

Appendix, No. 4.

Expenditure of One Year's Additional Grant.

to the Queen's College, Belfast, ending 31st March, 1864.

3. Libraries, Museum, and Collection of Objects of the Department of the Natural Sciences:

	£	s.	d.
Library of Natural History,	22	14	4
„ Geology and Mineralogy,	13	3	1
Museum of Natural History,	73	2	6
„ Geology and Mineralogy,	19	11	0
	128	10	11

4. Libraries, Museums, and Collections of Objects of the Departments of Engineering and Agriculture:

Library of Engineering,	24	11	2
„ Agriculture,	6	5	7
Instruments and Collections of Engineering,	16	13	8
	47	10	5

Appendix, No. 4.

Expenditure of One Year's Additional Grant.

APPENDIX, No. 4—*continued.*

ACCOUNT of the EXPENDITURE of ONE YEAR'S ADDITIONAL GRANT to the Queen's College, Belfast, ending 31st March, 1864—*continued.*

	£	s.	d.
5. Museum and Library of Medical Science:			
Library of Medical Works,	32	6	2
Anatomical and Pathological Museums, and Rent of Anatomical Rooms,	88	6	1
Surgical Museum,	2	0	0
Medical Jurisprudence,	14	19	2
	137	11	5
6. Library of Metaphysical, Legal, and Economical Science:			
Law, Jurisprudence, and Political Economy,	18	16	8
Metaphysics,	21	16	11
	40	13	7
7. Printing, Stationery, Advertising, Postages, Office Expenses, &c.,	330	15	0
8. Heating and Lighting,	151	4	5
9. Grounds, £60 10*s.* 1*d.*; Plants, £5,	65	10	1
	1,126	7	4
Balance in Bank of Ireland Office, 31st March, 1864,	318	6	11
Total,	1,444	14	3
Amount of One Year's additional Grant,	1,000	0	0
College and Matriculation Fees,	118	10	0
Received for Calendars, Catalogues, &c., and Fines,	8	11	3
Balance in Bank, 31st March, 1863,	317	13	0
Total,	1,444	14	3

The Accounts of the College up to 31st March, 1864, have been examined and found correct by the Commissioners for Auditing the Public Accounts.

April, 1865.

ALEXANDER DICKEY, *Bursar.*

APPENDIX, No. 5.

General Class Examinations, Queen's College, Belfast.

—	Session 1863-64.			A.M.	P.M.	Session 1864-65.			A.M.	P.M.
The English Language,	Saturday,	January	9	—	12—4	Saturday,	January	14	—	12—4
Logic,	Saturday,	February	13	9—12	—	Saturday,	February	11	9—12	—
Zoology,	Saturday,	March	5	9—12	—	Saturday,	March	4	9—12	—
Metaphysics,	Tuesday,	March	22	9—12	and 2—5	Tuesday,	April	11	9—12	and 2—5
Physical Geography,	Wednesday,	March	23	9—12	—	Wednesday,	April	12	9—12	—
Mineralogy and Geology,	Wednesday,	March	23	—	2—5	Wednesday,	April	12	—	2—5
English Literature,	Thursday,	March	24	9—12	and 2—5	Thursday,	April	13	9—12	and 2—5
Midwifery,	Wednesday,	April	27	—	2—5	Wednesday,	April	26	—	2—5
Practice of Medicine,	Wednesday,	April	27	9—12	—	Wednesday,	April	26	9—12	—
Anatomy and Physiology,	Thursday,	April	28	9—12	and 2—5	Thursday,	April	27	9—12	and 2—5
Practical Anatomy,	Friday,	April	29	9—12	—	Saturday,	April	22	9—12	—
Practice of Surgery,	Friday,	April	29	—	2—5	Friday,	April	28	—	2—5
Materia Medica,	Saturday,	April	30	9—12	—	Friday,	April	28	9—12	—
Medical Jurisprudence,	Saturday,	April	30	—	2—5	Saturday,	April	29	9—12	—
Practical Chemistry,	—	—		—	—	—	—		—	—
Modern Languages,	Tuesday,	May	31	9—12	and 2—5	Tuesday,	May	30	9—12	and 2—5
Greek (First Year),	Wednesday,	June	1	9—12	„ 2—5	Wednesday,	May	31	9—12	„ 2—5
„ (Second Year),	Thursday,	June	2	9—12	„ 2—5	Thursday,	June	1	9—12	„ 2—5
Latin (First Year),	Thursday,	June	2	9—12	„ 2—5	Thursday,	June	1	9—12	„ 2—5
„ (Second Year),	Wednesday,	June	1	9—12	„ 2—5	Wednesday,	May	31	9—12	„ 2—5
Engineering and Surveying,	Thursday,	June	2	9—12	„ 2—5	Thursday,	June	1	9—12	2—5
Mathematics,	Friday,	June	3	9—12	„ 2—5	Friday,	June	2	9—12	and 2—5
Natural Philosophy,	Saturday,	June	4	9—12	„ 2—5	Saturday,	June	3	9—12	„ 2—5
Chemistry,	Monday,	June	6	9—12	„ 2—5	Monday,	June	5	9—12	„ 2—5
Botany,	Tuesday,	June	7	9—12	—	Tuesday,	June	6	9—12	—
History,	Tuesday,	June	7	9—12	—	Tuesday,	June	6	9—12	„ 2—5

General Examination of Students in Law, and also of Students in the Faculty of Arts, in Political Economy, at the close of the Lectures on these subjects.

Appendix, No. 6.
Lectures delivered by Professors.

APPENDIX, No. 6.

RETURN of the NUMBER of LECTURES delivered by each Professor in the Queen's College, Belfast, in each YEAR.

—	1849-50.	'50-51.	'51-52.	'52-53.	'53-54.	'54-55.	'55-56.	'56-57.	'57-58.	'58-59.	'59-60.	'60-61.	'61-62.	'62-63.	'63-64.	REMARKS
Professor of—																
Greek, . . .	135	232	244	246	236	240	234	235	236	350	600*	460*	440*	360*	360	In addition, examining some hundreds of exercises each session.
Latin, . . .	162	107	218	221	189	196	232	230	230	275	868	234	234	234	230	Do do.
History and English Literature, . . .	36	56	98	91	104	100	105	105	99	110	123	92	154	146	140	Besides 676 exercises.
Modern Languages, .	208	330	324	307	806	305	319	340	366	307	340	372	872	350	356	
Celtic, . . .	6	6	6	6	6	6	6	6	6	6	6	6	–	–	–	Open to the Public without charge.
Mathematics, . .	135	256	333	248	246	330	346	622	650	400	400	370	370	316	625	Besides three hours each week on which the Senior Scholar meets the Junior Division.
Natural Philosophy, .	122	257	233	209	256	260	265	397	300	300	242	242	213	182	180	In addition, arranging apparatus, which occupies as much time as the lectures
Chemistry, . . .	134	136	137	128	162	160	136	142	142	140	162	132	132	132	130	In addition, superintending the working pupils, of whom from eight to twelve are admitted each year by examination to the laboratory without charge
Practical Chemistry, .	36	36	36	36	36	36	36	36	34	36	36	36	36	36	36	
Natural History, . .	120	120	133	137	166	136	142	140	143	140	140	140	140	140	140	Including lectures in Physical Geography, delivered free to all students.

Mineralogy and Geology,	*Public*,	66	54	56	94	55	49	59	96	92	92	52	52	92	52	In addition, daily attendance as Curator in the Museum.
Logic and Metaphysics,	–	–	76	142	179	178	164	177	179	167	140	136	194	208	199	In addition, criticising above 600 essays in each session.
Civil Engineering, .	134	138	140	136	130	136	147	116	100	124	196	220	138	328	619	Including practical work under the direction of the Professor.
Agriculture, . .	172	206	205	212	209	213	218	186	190	126	166	156	159	50	50	Including lectures on Medical Jurisprudence, for which there is no salary.
Anatomy & Physiology,	119	116	119	115	114	119	117	113	119	115	119	112	108	108	198	In addition, superintending the class of Practical Anatomy and Demonstrations and Dissections.
Practice of Medicine, .	85	93	92	92	93	94	94	85	73	95	95	93	95	95	69	
Practice of Surgery, .	93	94	93	61	61	92	94	94	94	94	64	94	94	93	93	Besides about twenty-five lectures each session on Operative Surgery.
Materia Medica, . .	92	61	61	93	90	90	92	80	84	94	84	84	94	84	84	
Midwifery, . . .	92	92	92	91	90	93	93	93	93	95	90	80	80	76	76	Besides practical instruction to students which may be required at any hour throughout the year.
English Law, . .	24	48	72	96	96	96	96	96	96	96	72	72	96	96	96	No third year Class in 1859–60, or fourth year Class in 1860–61.
Jurisprudence and Political Economy, .	94	49	96	120	120	120	120	120	120	96	120	120	120	120	120	

The above Return gives the number of *Meetings of one hour each*, in each Class. The system of instruction includes, not merely formal Lectures, but also examination in the business of the course; in some classes these examinations are held daily; in others on fixed days of the week, according to the nature of the subject.

The Professors also conduct the General Scholarship Examinations, and some of them, in addition, the Matriculation and Supplemental Examinations.

* Including about 110 on Sanskrit and Hindustani.

OCTOBER EXAMINATIONS of Queen's College, Belfast, 1865.

Days.	Hours.	First Year Students.	Second Year Students.	Third Year Students.	Fourth Year Students.
Tuesday, Oct. 17.	9—12		Suppl. Ex. English. Mod. Lang Math.	Suppl. Ex.—Mod. Lang , Math., Nat. Phil	Senior Schol.—Latin.
	2—5		Suppl. Ex.—Greek, Latin.	Suppl. Ex.—Greek, Latin, Logic.	Senior Schol.—Latin.
Wednesday, Oct. 18.	9—12		Liter. Schol —Greek.		Senior Schol.—Greek
	2—5		Liter. Schol.—Greek.		Senior Schol.—Greek.
Thursday, Oct. 19.	9—12		Med. Engin. Schol —Chem.	Previous Examination, in Arts and Engineering, of Queen's University.	Senior Schol —Chem.
	2—6	Matric.—Math.	Med. Engin. Schol.—Chem		Senior Schol.—Chem
Friday, Oct. 20.	9—12	Matric —Greek, Latin			
	2—5				
Saturday, Oct. 21.	9—12	Matric.—English.	Engin. Schol.—Geo Draw.		Senior Schol.—Mod. Hist.
	2—5	Matric.—English.	Engin Schol.—Geo. Draw.		Senior Schol.—Mod. Hist.

Monday, Oct. 23.	9—12		Med. Schol.—Botany	Engin. Schol. { Geol. and Phys. Geog	Senior Schol.—Nat. Hist.
	2—5	*Lists of Matriculated Students to be made out*	Med. Schol.—Zoology Liter. Schol.—English.		Senior Schol.—Nat. Hist.
Tuesday, Oct. 24.	9—12	Science Med. Engin. } Schol.—Math.	Science Engin. } Schol.—Math.	Engin. Schol.—Math.	Senior Schol.—Math.
	2—5	Science Med. Engin. } Schol.—Math.	Science Engin. } Schol.—Math. Med. Schol.—Anat. and Phys.	Engin. Schol.—Math. Med. Schol.—Anat. and Phys.	Senior Schol.—Math. Med. Schol.—Prac. of Midw.
Wednesday, Oct. 25.	9—12			Med. Schol.—Prac. Chem.	Senior Schol.—Nat. Phil. Med. Schol.—Prac. of Med.
	2—5	Liter. Med. } Schol.—English.	Engin. Schol.—Exp. Phys	Engin. Schol.—Nat. Phil.	Senior Schol.—Nat. Phil.
Thursday, Oct. 26.	9—12	Liter. Med. } Schol.—Latin	Liter. Schol.—Latin.	Engin. Schol.—C. Engin. Med. Schol.—Mat. Med.	Senior Schol.—Pol. Econ.
	2—5	Liter. Med. } Schol.—Latin.	Liter. Schol.—Latin	Engin. Schol.—C. Engin.	Senior Schol.—Pol. Econ. Med. Schol.—Surg. Anat.
Friday, Oct. 27.	9—12	Liter. Med. } Schol.—Greek.	Liter. Schol.—Mod. Lang.		Senior Schol.—Mod. Lang. Senior Schol.—Metaph. Med. Schol.—Anatomy.
	2—5	Liter. Med. } Schol.—Greek.	Liter. Schol.—Mod. Lang.		Senior Schol.—Mod. Lang. Senior Schol.—Metaph. Med. Schol.—Physiology.

Students passing the Supplementary Examinations complete the previous year, and take rank accordingly

Hours of Lectures,—Session 1864–65.

Hours.	Arts.			Civil Engineering.			Medicine.
	1st Year	2nd Year	3rd Year	1st Year	2nd Year	3rd Year	
9 till 10	*French.* Monday Wednesday Thursday *German.* Tuesday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday		*French.* Monday Wednesday Thursday *German* Tuesday Friday	*Mathematics.* Monday Tuesday Wednesday Thursday Friday		
10 till 11	*Mathematics.* Monday Tuesday Wednesday Thursday Friday	*French.* Monday Wednesday Thursday *German.* Tuesday Friday	*Honor Classes.*	*Mathematics.* Monday Tuesday Wednesday Thursday Friday			
11 till 12	*Latin.* Monday Wednesday Friday	*Nat. Philos.* *Exp. Phys* Monday Wednesday Friday *Mat. Phys* Tuesday Thursday	*Eng. Lit.* Monday Wednesday Friday	*Exp. Phys* Monday Wednesday Friday *Geom Drawing* Tuesday Thursday	*Mineralogy and Geology* Monday Wednesday Friday *Mat. Phys* Tuesday Thursday	*Office and Field Work.* Tuesday Thursday	*Exp. Phys* *3 months* Monday Wednesday Friday *Prac. Chem.* *3 months*
12 till 1	*Greek.* Monday Thursday Friday	*Latin.* Monday Wednesday Friday	*Metaphysics* Tuesday Wednesday Thursday Friday *History.* Monday Wednesday Friday	*Geom., Drawing, &c* *Office Work* Tuesday Thursday	*Office and Field Work.* Tuesday Thursday	*Office and Field Work* Tuesday Thursday	*Anatomical Demonstrations* Monday Tuesday Wednesday Thursday Friday

1 till 2		*Greek.* Monday Thursday Friday	*Zool. to Mar 1.* Monday Tuesday Wednesday Friday *Bot. from Mar 1.* Monday Tuesday Wednesday Thursday Friday		*Civil Eng.* Monday Wednesday	*Nat. Philos applied.* Tuesday Thursday	*Zool. to Mar 1.* Monday Tuesday Wednesday Friday	*Bot. from Mar 1.* Monday Tuesday Wednesday Thursday Friday	*Surgery* Monday Tuesday Wednesday Thursday	*Med. Juris* Friday
2 till 3	*English.* Monday Tuesday Wednesday Friday	*Logic.* Tuesday Wednesday Thursday Friday	*Pol Economy* Tuesday Thursday Friday			*Civil and Mech. Eng.* Monday Wednesday			*Anatomy.* Monday Tuesday Wednesday Thursday Friday	Examination on Fridays at 4 o'clock.
3 till 4			*Chemistry.* Monday Tuesday Wednesday Thursday Friday	*Chemistry.* Monday Tuesday Wednesday Thursday Friday	Field Work and Engineering Excursions for 2nd and 3rd Year Students occasionally on Fridays and Saturdays for some hours			*Chemistry.* Monday Tuesday Wednesday Thursday Friday	*Midwifery* Monday Tuesday Thursday Friday	*Medical Jurisprud* Wednesday
4 till 5			Chemical Laboratory open from 9 A.M. till 3 P.M.					*French.* Monday Thursday or from 9-10 a.m.	*Materia Med* Monday Tuesday Wednesday Thursday	*Prac. Med* Monday Tuesday Wednesday Thursday

FACULTY OF LAW.—HOURS OF LECTURES.

1st Year.				2nd Year.				3rd Year.		4th Year					
6 o'clock, P.M.	*Law of Property.* Monday Wednesday Friday	7 o'clock, P.M.	*Jurisprudence* Monday Wednesday Friday	6 o'clock, P.M.	*Equity and Bankruptcy.* Monday Wednesday Friday	8 o'clock, P.M.	*Civil Law.* Monday Wednesday Friday	11 o'clock, A.M.	*Common and Criminal Law.* Tuesday Thursday Saturday	10 o'clock, A.M.	*Evidence and Pleading.* Tuesday Thursday Saturday	8 o'clock, P.M.	*Constitutional & Colonial Law* Monday Wednesday Friday	12.30 o'clock, p.m.	*Medical Jurisprudence* Wednesday, 3 o'clock Friday, 1 o'clock

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No. 7.

Digest
of Subjects
and
Courses.

APPENDIX, No. 7.

An Enlarged Digest of Subjects and Courses pursued in Queen's College, Belfast.

Greek—*Professor, Charles MacDouall,* LL.D., M.R.A.S.

In the Greek Class, as in all those which are attended during more than one session, the business, as well as the hours assigned to the Students of the different years, is necessarily different; but it is always distributed into three simultaneous processes, viz., public examinations, lectures more or less formal, and exercises written at home and commented on in the class.

In the first session, the complex and self-contained structure of the Greek language is subjected to a close analysis; carried out, on the one hand, by tracing words to their crude forms, by classifying terminations, both the primary and the flexional, and by discriminating among analogically correct forms those actually used in different ages and dialects; on the other hand, by exhibiting the methods by which words are combined in simple clauses, clauses are knit into sentences, and sentences compose periods less or more complicated. Some prose-work furnishes the materials for this analysis; while the Students read and translate it, or else re-translate off-hand passages read out in English before them by the Professor. Besides syntactical phænomena, the laws and characteristics of both epic and dramatic versification are expounded and exemplified, while a portion of the *Ilias* and some tragedy are used as text-books.

In the second session, while consecutive passages of Herodotus along with some Attic oration or philosophical treatise, and a portion of the *Odysseia* along with some Attic tragedy or comedy, form the basis of prelections, the previous discipline is continued and extended; the distinctions of dialect and style are more fully elucidated; the origin, growth, and fortunes of the epos, the drama, history, and other departments of literature, are more distinctly unfolded; discussions on points of mythology, geography, chronology, archæology, æsthetics, &c., are more freely introduced and more amply treated. The Students are required to turn Herodotean Greek, at sight, into Attic, altering both the forms of words and the structure of sentences; to re-translate passages into Greek prose and verse; and also to give in original essays in both forms of composition.

Considering the variety of subjects which enter simultaneously into the first and second Sessions of the Collegiate Course, the Students generally appear to give a fair share of their attention to the Greek Language and Literature. Several times in the week a considerable number voluntarily attend extra Lectures, at which no note is taken of their presence or of their absence.

In a distinct or higher class, advanced Students, generally in the third or fourth year of their Course, are exercised in the study of more difficult works than those previously read, in the higher problems of criticism and philology, and especially in composing both prose and verse.

The following text-books have been used in the successive Sessions of College from 1849–50 to 1863–64:—*Ilias*, Books III., VI., X., and from XI. to XXIV. (inclusive); *Odysseia*, Books I.; II., III., XI., XII., XIII., XIV.; Hesiodus, *Theogonia;* Pindarus, *Olympia*, *Pythia*, *Nemea;* Aeschylus, all the Tragedies except the *Supplices;* Sophocles, the seven Tragedies; Euripides, *Alcestis*, *Hippolytus*, *Hecabe*, *Phoenissae*, *Orestes*, *Helene*, *Hercules Furens*, *Bacchae*, *Ion*, *Iphigeneia in Aulide*, *Iphigeneia in Tauris;* Aristophanes, *Nubes*, *Aves*, *Ranae;* Herodotus, Books I., II., IV.; Thucydides, Books I., II.; Xenophon, Portions of *Anabasis* and *Cyropaedeia;* Platon, *Apologia Socratis*, *Gorgias*, *Phaedon*. *Phaedrus*, *Philebus*, *Timaeus*, *Theaetetus;* Aristoteles, *Poetica* and portions of *Rhetorica;* Demosthenes, *c. Meidiam* and *de Corona;* Aeschines, *in Ctesiphontem*.

Sanskrit and Hindustani.

The Classes for these Languages (conducted by the Professor of Greek) are at present attended chiefly by Students who either have already obtained or are preparing to compete for Appointments in the Indian Service; but the Sanskrit

Class begins to attract others also, as the importance of some practical acquaintance with Sanskrit, especially in relation to Classical Studies and to Comparative Philology, is now generally recognised.

Either Class may be attended separately; or a two years' Course may be taken, in which Sanskrit alone is studied during the first year, while Sanskrit and Hindustani (including the elements of Persic) occupy the second.

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LATIN—*Professor, William Nesbitt,* M.A.

The Professor of Latin lectures Students of the First and Second Years each set three hours a week; attendance on the lectures being compulsory for those who take the Classes of Latin. Besides these compulsory lectures, he gives two lectures additional to Students of each of these years, attendance on which is voluntary, in which more difficult authors are read, and special attention is paid to composition. The attendance on these lectures is very good.

An honor Class has been formed of Students of the Third and Fourth Years, chiefly attended by those who are anxious to distinguish themselves in Ancient Classics at the Degree Examination.

In addition to the above, two lectures are delivered weekly on Latin composition.

The number of hours during which the Professor lectures each week is fifteen.

HISTORY AND ENGLISH LITERATURE—*Professor, George Lillie Craik,* LL.D.

Class of the English Language.

The business of this Class is conducted by—

A Course of Lectures on the Origin, Growth, and Revolutions of the Language from the earliest times to the present day;

A Course of less formal Expositions of the constitution of the Language, delivered partly at a succession of voluntary meetings in the Second Term (which, especially in the present session of 1864–5, have been attended by a large proportion of the Class);

Daily Examinations on the text-book—Craik's "Outlines of the History of the English Language;"

Critical Readings of "Specimens" at the end of the text-book;

Weekly Essays in English composition.

Class of English Literature.

The business of this Class is conducted by—

A Course of Lectures on Literature, regarded as one of the Forms or Departments of the Artistic;

Occasional Lectures on portions of the History of English Literature;

Examinations on the text-book—Craik's "Manual of English Literature;"

Written Essays every fortnight throughout the Second Term;

Critical Reading of Shakespeare's Julius Cæsar, with exposition of the artistic conduct and characteristics of the play; followed last session (1863–64) by that of Milton's Sonnets; for the present session by the First Book of Milton's Paradise Lost.

In this Session (1864–65) a Course of Expositions on the Fifth edition of Latham's English Language.

Class of History.

The business of this class is conducted by—

A Course of Lectures on the Science of History, embracing the nature, definition, attractions, and recommendations of the study, the subject of historic evidence, the various theories of historic prognostication, the method of studying history, &c.;

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A few Lectures on the historical development of the English Constitution;
A rapid exposition of the outlines of Historic Geography;
A more extended exposition of the principles of Chronological Science;
A survey of the history of modern Europe, and of the formation and growth of its principal States from the overthrow of the Western Roman Empire.

The Professor also superintends the historic studies of the Senior Scholar in History and Modern Languages.

Modern Languages—*Professor, Wilhelm Frädersdorff,* PH.D.

French and German, between which languages the Students have an option, are taught at distinct hours.

In the First Year the Grammar is explained, and the Students are exercised chiefly in translating passages from French or German rather than in translating English passages into either language.

During the Second Year one day in each week is devoted to the study of some Foreign Classical work in prose, and a second to reading and commenting upon tragedy or poem; while the third day is occupied partly in criticising work previously done, but chiefly in translating some English passage into French or German, and in conversation upon a literary subject introduced in a paper composed and read aloud by the Professor.

In the Third Year the Students are trained in Original Composition and in translating from one Modern Language into another, and their attention directed to the principles of Comparative Philology. French or German is used exclusively in conversation.

Medical Students are instructed in the same way in a special class. "Physiologie Expérimentale" is used as a text-book for the higher division.

Mathematics—*Professor, John Purser,* M.A.

Attendance on this Class is prescribed to all Students in the Faculty of Arts during the first year of their Course; during the second year Mathematics forms one of four Courses, out of which the Students select two.

All Students in the Department of Engineering are required to attend the Mathematical Classes during two years.

Before entering, Students are required to pass an examination in the First and Second Books of Euclid, and in a small portion of Algebra. Practically they come fairly prepared in the prescribed portions of Euclid, but a large proportion can hardly be said to possess even an elementary knowledge of Algebra. A considerable number of the Students are Candidates for Mathematical Scholarships at entrance, and these are generally well prepared in the first six Books of Euclid, and a considerable portion of Algebra and Plane Trigonometry.

On this account the instruction of the First Year in Mathematics has been given in two Divisions. The Lower Division has been carefully taken through such portions of Euclid I., II., III., IV., VI., as they had not previously prepared, and has received instructions in Algebra as far as the progressions, and in Plane Trigonometry as far as the solution of triangles, with the use of logarithms and trigonometrical tables. The instruction of the Upper Division comprises a complete Course of Algebra and Trigonometry, with the principal historical properties of the Conic Sections, treated geometrically.

The Council has sanctioned the employment of the Senior Mathematical Scholar in giving a portion of the instruction of the Lower Division. This arrangement, while it affords a greater number of hours to the Lower Division, enables the Professor of Mathematics to give more attention to the Upper Division, and has been found to work very satisfactorily.

In the Second Year the subjects of Lecture are Analytical Geometry, the Differential and Integral Calculus, and the first three sections of the Principia of Newton; and, in addition to this, when the progress of the Students has been sufficiently rapid during the early part of the Session, the solution of the simpler kinds of Differential Equations, and the principles of Analytical Geometry of Three Dimensions.

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The instruction is carried on in great part by questions, which the Students are required to work out at the time, under the eye of the Professor, the questions having reference to those portions of the subject which have just been treated in the Lectures. The Professor then corrects their work, and gives such hints and explanations as are requisite.

For several years past a third and higher class has been formed for the benefit of the Students competing for University honors and the Indian Civil Service Examinations. The subjects of lecture are Geometry of three dimensions, Differential Equations, and other branches of the higher Mathematics, according to the advance which the Students have made.

THE PHYSICAL CLASSES—*Professor, John Stevelly,* LL.D.

The subjects taught in the Physical Classes are distributed under three subdivisions: Mathematical Physics, Experimental Physics, and Natural Philosophy applied.

The subjects comprised in the Course of Mathematical Physics are—Mechanics (under its several statical and dynamical subdivisions), Hydrostatics, Hydraulics, Pneumatics, Acoustics, Optics, and Astronomy. The Students who attend this class are the Matriculated Students who are seeking a Degree in Arts, the Engineering Students of the Second Year, and Non-Matriculated Students, some of whom are Candidates for the ministry in the Presbyterian Churches. Attendance at the Lectures three days in each week is imperative on all those Students, and one hour in each week is occasionally employed in asking questions from prescribed parts of Galbraith and Haughton's Manual. Two days in the week attendance is optional, when Analytical Mechanics and the higher branches of Physics are taught. In the Lectures, attendance on which is imperative, such mathematical proofs and illustrations only are introduced as a person reasonably prepared in the six first Books of Euclid and Elementary Algebra might easily comprehend. The teaching is by prelection; and although no text-books are prescribed, the ordinary elementary works on the several subjects are pointed out and referred to. At the Lectures, attendance on which is voluntary, the demonstrations and investigations are pursued in a more systematic and mathematical method, so as to require a knowledge of Analytic Geometry, Conic Sections, and the Differential and Integral Calculus. Text-books are used for the guidance of the Students attending these Lectures, who are chiefly those who are intending to compete for Honors. These text-books are Earnshaw's and Todhunter's Statics, Wilson's Dynamics, Tait's Dynamics of a Particle, Miller's Hydrostatics, Lloyd's Optics and Lectures on the Wave Theory of Light, Herschell's Astronomy, and two of Airy's Tracts, with occasional reference to Du Hamel's Cours de Mecanique, and to Poisson's Works.

The Class of Experimental Physics is attended by the same Students, and also by Agricultural Students of the Second Year, and by Medical Students of the Third Year. The subjects of these Lectures are taught entirely without mathematical demonstration, by the aid of experiments, illustrations, drawings, and models, and such works as Lardner's Hand-book, Golding Bird's Physics, Webster's Physics, Miller's Chemistry, Vol. I., Arnott's Elements, Biot, Ganot, Pouillet, Peschel, and such like standard works are referred to, and recommended to the attention of the Students. The subjects of Heat, Electricity, and Electro-Magnetism are at present chiefly taught in the Chemical Class; but the leading facts and principles are taught by selections from Biot, Pouillet, Ganot, and Miller.

The Class of Natural Philosophy applied is intended for Students in Engineering of the Third Year, by the recent University Ordinance; lectures and instructions twice in the week. The subjects embraced are the nature and estimate of work done; the kinds of work required to be done; the nature and laws of friction, and other useless resistances; the moving powers at our command, their respective nature and the laws which govern their action; the man-

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ner in which they are, by machinery, connected with and opposed to the resistances; the construction of machines; the principles of strength of materials as opposed to strains; the equilibrium of structures, frames, roofs, arches, domes; the general principles of mechanism; general maxims in the structure and working of machines; maximum effects of machines; hydraulic engines; the steam-engine. The works used as guides to the studies of the Students in this Class are selections from Lloyd's and Robinson's Mechanics, Willis's Principles of Mechanism, Barlow on Materials and Construction. Hodgkinson's Experimental Researches, Tredgold, Tate's Elementary Treatises and Exercises, and selected numbers of Weale's Rudimentary Series.

CHEMISTRY.—*Professor, Thomas Andrews*, M.D., F.R.S., M.R.I.A.

In the Class of Chemistry the greater part of the Course is devoted to pure Chemistry; but the Elements of the Sciences of Heat and Electricity, particularly in their relations with Chemistry Proper, are also taught. The application of these sciences to the arts are particularly referred to; and it has been the constant endeavour of the Professor to communicate to the Students as precise and accurate information as possible on the subjects treated in his Lectures, and to train them to habits of careful observation and accurate thinking. With this view a weekly examination of the whole Class is held, at which the Students are subjected to a searching examination on the business of the preceding week; and further to encourage a taste for scientific inquiry, and also to train a certain number of practical chemists, a limited number of the best Students are admitted, by examination, as working pupils into the chemical laboratory, where they have an opportunity of acquiring a knowledge of chemical analysis. This latter arrangement has now been in practice for several years, and has already been attended with the best results.

NATURAL HISTORY.—*Professor, Wyville Thomson*, LL.D.

The Zoological Department of the Course occupies the First Term and greater part of the Second, and comprehends the Outlines of Anatomy and Physiology of animals, followed by Systematic Zoology, and remarks on the distribution of animals.

The Botanical part comprehends Vegetable Anatomy and Physiology, Systematic Botany, and distribution of vegetable forms. In addition to the Class Lectures, meetings are held in the Botanic Garden, and practical excursions made into the neighbouring country.

This Course comprehends chiefly Lectures on the structure and form of continents and islands; the distribution of mountain systems, rivers, and lakes; the ocean, its currents, temperature, &c.; the atmosphere, its currents, &c.; rain, snow, &c. The preceding subjects are considered in relation to the geographical distribution of animals and plants.

These different branches are illustrated by specimens, or drawings, or both, as the case may be.

GEOLOGY AND MINERALOGY.—*Professor, Wyville Thomson*, LL.D.

The Courses consist of lectures, demonstrations, and examinations. The Geological Course embraces the general principles of the science, and a detailed investigation of the palæontological, lithological, and economic characters of all the formations. The Students are exercised in the practical use of the necessary instruments, and in the construction of Geological maps and working sections. The characteristic fossils of the different formations are rendered familiar by the exhibition of specimens and models, and an excellent series of drawings. Drawings are also used for the illustration of the underground workings of mines of copper, coal, &c.

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In the Mineralogical Course the Students are instructed in the most modern crystallography by models, and exercised with the reflecting goniometer. The electro-chemical classification of minerals is then explained, and an extensive suite of minerals in the Museum is arranged on that system, for the instruction of the Students.

Once a week examinations are held, and additional explanations given of the subjects of the preceding lectures.

LOGIC AND METAPHYSICS—*Professor, Rev. James M'Cosh,* LL.D.

LOGIC.

Students attend this Class four days each week during twelve weeks of the Second Session. On two of these days there are examinations on a text-book of Formal Logic, with short prelections on the said text-book, and also the oral explanation of philosophic terms, the reading of Essays by the Students, and the criticism of them by the Professor. On the other two days the Professor delivers written Lectures. This Course of Lectures is divided into two parts: FIRST, GENERAL LOGIC, or an Exposition of the Laws of Discursive Thought in general, that is, whatever be the object of thought, embracing Notions, Judgment, and Reasoning; SECONDLY, PARTICULAR LOGIC, or the Development of the Laws of Thought, as directed to particular classes of objects, comprising Demonstrative Evidence, Probable Evidence, Induction, Analogy, Teleology, and the Relation of the Organon of Bacon to that of Aristotle. The prominent topic in the second part is the Method of Induction, which is treated under the heads:—I. The Means, being generally Systematic Observation, and more particularly Analysis, Observation Proper, Experiment, Hypothesis, Explication of the Conception. II. The End, being the Discovery of Classes (as in Natural History, &c.), of Composition (as in Chemistry, &c.), or Causes (as in Natural Philosophy, &c.). III. The Canons of Classes, Composition, and Causes by which we may reach the End by the Means. The Students are required to give in a short written essay once a fortnight. At the Pass Examination, at the close, about one-half of the questions bear upon subjects discussed in the text-book, and the other half upon topics explained in the lectures.

METAPHYSICS.

This Class meets four days each week, and an hour each day, during the first two terms of the Session, and is attended by Students of the Third Year. On one of these days there is a rigid examination, with interspersed remarks by the Professor, on the second half of the Epitome of the History of Philosophy, sanctioned by the University of France (translated by Henry). In this part of the text-book there is an abstract of the doctrines of the more eminent philosophers who have flourished in this country, and on the Continent of Europe, from the time of Bacon to the present day. On another of these days there is an examination on the written lectures, together with the reading and criticism of essays; the Students being required to give in a carefully written essay every fortnight to the Professor, who reads it at home, and selects certain portions of it to be read in the class, where he criticises it. These essays are on the leading subjects discussed in the written lectures. On the other two days the Professor delivers carefully prepared written lectures. He begins the course with a few lectures on the Method of Investigation, which is that of Induction, and on Mind and Body, and then proceeds to divide his course into two parts, PSYCHOLOGY and METAPHYSICS PROPER.

Under PSYCHOLOGY he treats of the Powers or Faculties of the Mind which he classifies as follows:—I. The Simple Cognitive Faculties: (*a*) Perception; (*b*) Consciousness. II. The Reproductive Faculties: (*a*) Retention; (*b*) Phantasy; (*c*) Association; (*d*) Recognition; (*e*) Composition; (*f*) Symbolic Power. III. The Faculties which Discover Relations: (*a*) of Identity and Difference; (*b*) of Whole and Parts (to which we owe abstractions); (*c*) of Space; (*d*) of Time; (*e*) of Quantity; (*f*) of Resemblance (to which we owe the Discovery of Classes); (*g*) of Active Property; and (*h*) of Cause and Effect. IV. The Conscience.

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V. The Emotions; and VI. The Will. In this course of lectures, which occupies two-thirds of the session, the method of operation and peculiarities of these mental attributes are carefully pointed out.

Under METAPHYSICS PROPER the Professor treats of the Native or Intuitive Principles of the Mind. He points out their true Psychological Nature, and shows that they are the fundamental laws or rules of the Faculties. He also specifies the tests, such as Self-evidence, Necessity, and Universality, by which they may be distinguished. He proves that they are in the constitution of the mind, and that they operate spontaneously, but that we can make a reflective or philosophic use of them only after we have detected their nature by a careful induction. He classifies them as the True and the Morally Good. Under the first he treats (1) of Primitive Cognitions and Beliefs, such as Body, Spirit, Substance, Power, Space, Time, the Infinite; and (2) Primitive Judgment, such as Substance and Quality, Mathematical Axioms, Cause and Effect. Under the Good, without entering into the subject of Ethics, he shows that there is a fundamental distinction between Moral Good and Evil. He closes this course by showing how all these principles should conduct us to the belief in a Being who is at one and the same time the True and the Good.

HONOR LOGIC.

The Professor has also an Honor Class, in which are discussed the higher questions of Logic (Formal and Inductive) and Philosophy. It meets three times a week, and is attended by fourteen Students. At two of the hours the Professor lectures on Logic and the History of Philosophy, and at the third hour there are examinations on text-books (including logical treatises by Mansel, Thomson, and Mill), and discussions.

CIVIL ENGINEERING—*Professor, James Thomson,* M.A., C.E.

The Courses of lectures and practical instruction given by the Professor of Civil Engineering are arranged to accord with the Ordinances of the Queen's University, which prescribe to candidates for the Diploma in Civil Engineering a Curriculum extending over three Sessions usually, but admitting of abbreviation to two Sessions in the case of students whose previous acquaintance with a sufficient group of the subjects prescribed for study in the first and second Sessions of the ordinary Course shall be deemed by the College Council satisfactory.

For the First Year Students the Professor gives a course of instruction, comprising lectures and oral examinations on the Principles of Geometrical Drawing, and the performance by the students of practical work under his direction. The lectures include the principles of descriptive geometry, orthographic and isometric projection, and linear perspective; and the practical work comprises the performance of examples in these subjects, and the execution of drawings in Mechanical Engineering, and occasionally also in Architecture and Civil Engineering. The Class meets for two hours at a time on two days per week during the three Terms of the College Session.

For the Second Year Students two courses are conducted by the Professor of Engineering, of which one is a Lecture Course and the other a Practice Course. The Lecture Course comprises surveying, levelling, and plotting, with the theory and use of the instruments required in surveying and levelling operations; mensuration of earthworks for railways; setting out works on the ground, including ranging of railway curves, and setting out breadths of cuttings and embankments, and ranging tunnels, &c. The Course also comprises usually some of the following subjects:—revision and farther prosecution of descriptive geometry, and perspective, and other subjects of geometrical drawing; designing and drawing of oblique bridges; properties and qualities of materials used in construction, and modes of procuring them; and an introduction to architecture as a fine art.

In the Practice Course of the Second Year the Students are engaged in the performance of office and field work, under the instruction and direction of the Professor; and the business includes surveying, levelling, drawing, mapping, and the computation of areas of lands, and other engineering calculations. Excursions are also made occasionally during the Session to visit Engineering works,

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For the Third Year Students there are (as for those of the Second Year), two Courses conducted by the Professor, one a Lecture Course, and the other a Practice Course. The Lecture Course comprises the farther treatment of some of the subjects proposed to be entered on in the Second Year, and most of the following subjects:—foundations, cofferdams, bridges, tunnels, roads, and railways; specifications for engineering contracts; water-works for supplying towns; science of the flow of water in orifices, pipes, and canals; drainage of fens by gravitation, and by steam power and other mechanical means; harbours; regulation and improvement of rivers; science of the strength of materials and structures; ventilation of dwelling-houses, public buildings, and mines; the iron manufacture; processes and mechanisms used in foundries and engineering workshops.

The Practice Course includes office work, field work, and engineering excursions.

Anatomy and Physiology—*Professor, Peter Redfern,* M.D., Lond., F.R.C.S.I.

The Department of Anatomy and Physiology comprises two distinct Courses of Lectures—one on Anatomy and Physiology, the other on Descriptive and Surgical Anatomy, and also the teaching of Anatomy by Dissections throughout the day.

The Course of Anatomy and Physiology includes about 115 meetings, each of an hour's duration, held on the first five days of each week from November to April inclusive. These meetings are for lecture and occasional examinations on the subjects previously considered in the lectures. The lectures include a complete course of the Anatomy and Physiology of the general textures of the body, including the blood, chyle, &c., and a systematic account of the whole of the viscera, treated of as they are associated in groups for the several purposes of digestion, circulation, respiration, urination, innervation, and generation; also the organs of sense. In treating of every part or organ its healthy state is shown by recent dissections and by preparations from the Museum illustrating it in man and animals, its diseased states and actions being referred to at the same time and contrasted with the healthy ones. The textures not visible to the naked eye are shown under a series of achromatic microscopes, so that during the Course every student in the class has an opportunity of judging for himself of the true characters of each part, and, by becoming familiarized with these, of recognising each when changed by disease.

The Course of Practical Anatomy and Anatomical Demonstrations includes:—

1st. Dissections carried on throughout the day under the immediate superintendence of the Professor of Anatomy and Physiology, and the Demonstrator. Each Student is required to be steadily engaged in dissections during the whole Session. For this purpose the supply of subjects is regular and abundant, and thus affords the surest foundation for efficient medical teaching.

2nd. This Course includes the Anatomical Demonstrations, which consist of a complete Course of Descriptive and Surgical Anatomy, commencing with the anatomy of the skeleton and bones, and including the anatomy of the limbs and other parts, excluding that of the viscera and the physiology treated of in the Course of Anatomy and Physiology. The demonstrations are given on each of the first five days of the week, and are about 115 in number in each Session.

By the erection of part of the Anatomical buildings in the College grounds the Students have been relieved from the inconvenience of walking to and fro, for the distance of a mile, between the Practical Rooms and the College, as formerly.

It is earnestly to be hoped that the remainder of these buildings will now be undertaken, that the Anatomical and Physiological collection in the College Museum may be made available for teaching in the new buildings, and that the injury resulting from carrying the preparations for Lecture down the stairs and across the seats of the present Class-room may be obviated

Appendix, No. 7.

Digest of Subjects and Courses.

PRACTICE OF MEDICINE—*Professor, John Creery Ferguson,* M.A., M.B., *Hon. Fellow of King and Queen's College of Physicians, &c.*

The class meets four times each week, from the first week of November to the last of the following April.

An examination is held usually once a fortnight. The Course embraces the principles of Inflammation, Fevers, the diseases, organic and functional, of the viscera of the three great cavities of the human body. In treating of individual diseases, their pathology, semeiology, ætiology, and treatment, are the subjects chiefly dwelt on. Wherever it is possible, pathology is illustrated by the preparations afforded by our Museum, by drawings and plates, or by recent specimens. It may be added that the Professor's present connexion with the Belfast General Hospital adds greatly to the means of making his Course more useful and interesting to students.

THEORY AND PRACTICE OF SURGERY—*Professor, Alexander Gordon,* M.D.

Four Lectures are delivered weekly during the Medical Session. An examination is held each day on the subject of the preceding day's Lecture. Each Course comprises the following subjects:—

Inflammation,
Suppuration,
Mortification,
Erysipelas,
Burns,
Ulcers,
Wounds,
Hæmorrhage,
Diseases of the Arteries,
   ,, Veins,
Fractures of Trunk and Extremities,
   ,, Cranium, Injuries of the Brain and Scalp,
Dislocations,
Diseases of the Joints,
Diseases of the Bursae,
   ,, Bone, benign and malignant,
   ,, the Jaws and Mouth,
   ,, the Fingers and Toes,
   ,, Female Breast,
   ,, Anus and Rectum,
   ,, Testis,
   ,, Hernia,
   ,, Prostate,
   ,, Bladder,
   ,, Eyes,
   ,, Larynx,
Syphilis,
Gonorrhœa,
Stricture.

All the capital and minor operations are performed on the dead subject. The Professor delivers a separate Course of twenty-five Lectures on Operative Surgery.

MATERIA MEDICA—*Professor, James Seaton Reid,* M.D.

This Course includes—

1st. General Pharmacology, or the modes in which medicines act upon the living organism in a state of health.

2nd. Therapeutics, or the modes in which medicines act as curative agents.

3rd. Pharmacy.

4th. Dietetics, a review of the different kinds of food used in health and in disease.

5th. Special Pharmacology, or the history, composition, uses, and modes of administering medicinal agents for the cure of disease.

The Class meets four times each week. An examination is held once every week.

Appendix, No. 7.

Digest of Subjects and Courses.

MIDWIFERY—*Professor, William Burden*, M.D.

Lectures four times a week during the six winter months consist of following subjects:—

Anatomy of the pelvis, so much as is required for midwifery. Its measurement and pelvimeters.

Contents of the pelvis. The functions of the uterus in its virgin state.

Conception—length of gestation—changes of the uterus and its appendages during gestation.

Growth of child from its earliest seen form until its full parasitic size.

Graafian vesicle and corpus luteum. Fœtus, its circulation, signs of maturity, weight, and length.

Plural births.

Proportion of births and deaths of males to females.

Superfœtation.

Signs of pregnancy.

Signs of approaching labour.

Natural labour, its progress; also the positions and progress of child till its separation from its mother.

Management of natural labour, including the arrangement of the bed and bed-room, and the proper dress and posture of the patient.

Tedious labour, its causes and treatment.

Labour requiring the use of instruments; their application taught on models in the class.

Cæsarean section and Scqultean operation—how to prevent the fœtus from getting large in uterus.

Premature labour—how to bring it on, and when it is necessary to do so.

Cross-births and their treatment.

Abortion—how to prevent it.

Extra uterine fœtations—how they occur, and their treatment.

Management of women after delivery, and treatment of such accidents and diseases as occur at this period.

Management of children after birth, washing, dressing, food, &c., and the choice of a wet-nurse, and treatment of such accidents as take place at this period, or soon after.

Practical midwifery taught by pupils attending patients in their own houses and in the Lying-in hospital, where Clinical Lectures are given.

MEDICAL JURISPRUDENCE—*Professor, Dr. Hodges.*

The Lectures in this Course are delivered twice weekly during six months. They include an account of the history and chemical investigation of poisons, and of the various subjects respecting which the evidence and assistance of Medical Practitioners may be required in Courts of Law. Experimental illustrations of the methods to be pursued in medico-legal inquiries are given, and frequent examinations held to test the progress of Students. No salary has been allocated to the Teacher of this department, and the duties, at the request of the Council, have, since the opening of the College, been performed by Dr. Hodges.

ENGLISH LAW—*Professor, Echlin Molyneux*, Q.C.

The Professor of English Law, in conducting his department, has constantly kept in view the object of the Select Committee of the House of Commons in recommending the foundation of Chairs in Law in connexion with the Queen's Colleges, which, as they stated in their Report on Legal Education, was not merely to prepare Candidates for the Bar, and for the profession of Attorney and Solicitor, but to raise the standard of legal attainments amongst local practitioners, and especially to provide opportunities of legal education to qualify persons intended to fill administrative situations not strictly legal—a policy which has

Appendix, No. 7.

Digest of Subjects and Courses.

been since followed up by the Legislature conferring privileges, by way of inducement, on Candidates for the profession of Attorney and Solicitor, who shall avail themselves of these Schools of Law.

The Course of the *First* year in this department comprehends the elements of real and personal property, with the principles of conveyancing; that of the *Second* consists of an introduction to the principles and practice of Courts of Equity and the law of Bankruptcy; the *Third* Course includes the common law as incident to contracts, the nature and form of remedies by civil action, and an outline of criminal law, theoretical and administrative, which last completes the Curriculum of instruction required for the attainment of the Diploma of Elementary Law in the Queen's University. The subjects prescribed for Students of the *Fourth* year to qualify them for the Degree of LL.B. embrace a more extended and detailed course of the subjects already enumerated, including the law of wills, powers, evidence, and procedure.

The Lectures are made auxiliary to the cotemporaneous studies directed, and are accompanied by interrogation, independent of the General Examination and that for Honors. Such books, cases, and decisions, and portions of treatises are pointed out for reading as are considered by the Professor most useful in elucidating a branch of learning which is scarcely furnished with books exclusively intended for instruction; and no efforts have been spared to point out the peculiarities of the law in Ireland, whether proceeding from statutes or inherent diversity of practice, or to direct attention to the recent changes which have been introduced into the course of procedure.

From the first opening of the College to the present time the successive classes have spontaneously applied themselves with assiduity and perseverance to the various subjects of legal instruction, and several Non-Matriculated Students have from time to time availed themselves of the privilege afforded by the College Ordinances of attending detached Courses of the Lectures on selected subjects.

Under these circumstances, the Professor is gratified at being able to give the assurance that the Faculty of Law has fully realized the objects of its founders, and that a further extension of its public benefits would ensue upon the adoption by Government of the suggestion made by the same Committee of the House of Commons that a preference should be given to candidates for situations in the Civil Service, not of a purely legal nature, who could produce testimonials of legal attainments from those institutions—a rule which would fully accord with the principle laid down in a recent report of another Committee in relation to the Civil Service.

JURISPRUDENCE AND POLITICAL ECONOMY—*Professor, T. E. Cliffe Leslie*, LL.B.

The subjects embraced in the Course of Lectures on *Jurisprudence* are according to the regulations of this College, (1) the Elements of Jurisprudence, (2) Civil Law, (3) Constitutional Law, (4) Colonial and International Law.

In the treatment of these subjects both the *Historical* and *Philosophical* Methods are followed in the Lectures of the Professor. The Historical Method, for example, is applied in tracing the principal changes through which the laws of England have passed, the assignable causes of each changes, and the degree and manner in which, in comparison with the laws of Continental Europe, the laws of this kingdom have been affected by contact with the principles of Roman legislation. The method of Philosophical Analysis, on the other hand, is applied in investigating the doctrines of the foundation and classification of rights, the several parts and legitimate form of a complete code, the relation of Scientific Jurisprudence to other departments of Social Philosophy, and the means of improving the state of Positive Law as deducible from such considerations.

The subjects which a Course of Lectures on *Political Economy* must embrace are fewer and more definite than those classed under the less advanced and more complicated Science of Jurisprudence. It is the Professor's endeavour to illustrate the principles of Economic Science by the help of those practical applications which will be most interesting and useful in a large commercial town.

APPENDIX, No. 8.

GENERAL CLASS EXAMINATION at the end of the SESSION 1863–64.

Appendix, No. 8.

General Class Examination.

JANUARY, 1864.

FIRST YEAR STUDENTS.

THE ENGLISH LANGUAGE.—*Examiner, Professor Craik.*

1. Explain the origin of the terms *English* and *England*, and state what is known as to the history of their employment to designate the people, the language, and the country of which they are now the only recognised names.

2. Explain what is the conclusive or insurmountable objection to the use of the terms *Saxons* and *Saxon* for the English people and language of the period before the Norman Conquest.

3. Enumerate in the order of time the successive languages which appear to have been introduced into the country now called England, and to have ever been native either to the whole or to a distinct portion of the population.

4. Give an account of the Indo-European Family of Languages; and note to which of its branches the several languages belong which appear to have been at any time native in England.

5. Give an account (not in a tabular form) of the languages composing the Celtic branch of the Indo-European Family.

6. Give a similar account of the Gothic branch of the Indo-European Family of Languages.

7. Explain the origin and application of the terms *French* and *Francic* (or *Frankish*); and give an account of the two great dialects into which the French language was formerly divided.

8. Give the history of the English language since the Norman Conquest, as commonly divided into the successive stages of Semi-Saxon, Early English, Middle English, and Modern English, explaining the relative position of the imported French in each of the first three.

9. Explain the only two real revolutions which the English language has undergone since its first introduction into Britain, and the scientific view of its history which we thence obtain.

10. Give Chaucer's equivalents for our present, *I*, *Ye* or *You*, *They*, *Them*, *Their*, *Her*, *He loved*, *We loved*, *To tell*, *Will*, *Would*, *Shall*, *Should*, *Can*, *Could*, *May*, *Might*, *To be*, *To have*.

11. Give an account of the peculiar orthography adopted by the author of the *Ormulum*.

12. As a specimen of English composition, every candidate will write a short essay on either

The Pleasures of Essay-Writing: or,
The Difficulties of Essay-Writing.

FEBRUARY.

SECOND YEAR STUDENTS.

LOGIC.—*Examiner, Professor M'Cosh.*

1. Specify the several notions in the following sentences. Say as to each, what sort of notion it is, and what sort of reality there is in it. "Memory is a faculty of the mind. The purposes served by it are most important. Children exercise it readily. It can be cultivated. Giulio Guidi could repeat thirty-six thousand names after once hearing them."

2. What notions can be logically defined? What is the essential thing

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General Class Examination.

in definition? How can general concrete notions be defined? Give the rules of definition. Examine the following by them, and amend:—"Apprehension is a logical operation." "Judgment compares notions." "Fallacy is an unsound mode of arguing."

3. "It is a duty to look to the future." What are the notions in that proposition? Are they distributed? Interpret the proposition both as to extension and comprehension. Convert it, and put it in the various forms of opposition.

4. "You see that men who are indifferent to all religion do not seek to compel others to believe as they do; and as this man does not seek to compel others to believe as he does, we may conclude that he is indifferent to religion." Put the above in correct form and examine it. Indicate the mood and figure. Give the special rules with reasons of that figure.

5. Define *conditional proposition* and *conditional argument*. Specify the antecedent, the consequent, the major premiss, the minor premiss, and the conclusion in the following; say also on what rule the reasoning proceeds and reduce it to categorical form:—"All our ideas are got from sensation and reflection, if Locke is right; but all our ideas are not got from sensation and reflection; therefore Locke is not right."

6. Define *dilemma*, and put the following in the form of a dilemma: "Whether the American war does or does not cease there will be a commercial crisis within the next two years." Designate the antecedents and consequent, the major and minor premises, and say whether the reasoning is constructive or destructive?

7. It is disputed whether any one has a right to compel a parent to educate his child in a different way from what he is doing, and it is proven conclusively that the parent is educating his child wrong. What fallacy is committed? Define that fallacy and refer it to its proper head.

8. Show precisely wherein the method followed in geometry differs from that employed in physical science, and give the rationale of the difference.

9. Specify and briefly describe the methods of prosecuting science condemned by Bacon, and give a sketch of his method as distinguished from these.

10. In the month of February an invalid took a walk on Monday, Wednesday, and Thursday, and his malady was increased. He stayed in his room on Tuesday, Friday, and Saturday, and was no worse. He concludes that the disease was increased by exposure to the cold air. Show how this inference is legitimized by the canons of the Methods of Difference and by Residues, and indicate how the reasoning may be put in syllogistic form.

11. On what principles does the comparative anatomist proceed in constructing the whole animal from a significant bone?

HONOR QUESTIONS.

a. Show exactly how it is that we think by means of language, and what advantages and disadvantages arise in consequence.

β. Suppose some one should maintain that we discover the truth of the three laws of motion by intuition, show how you would argue with him; and in doing so, state what is involved in intuition, and put the reasoning in syllogistic form, designating the mood and figure.

γ. What makes the inquiry into causes so difficult? What purposes are served by the Canons of Causes? Show that causes always imply more than one agent. Can there be a distinction drawn between agent and patient?

δ. There is a dispute in the present day as to whether we may expect more from induction or deduction. State the exact question and what is involved in deduction.

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General Class Examination.

ε. From the course gone over in the class, bring out briefly the tests which logic furnishes for trying the various kinds of truth.

MARCH.

ZOOLOGY.—*Examiner, Professor Wyville Thomson.*

1. Name and describe the bones which enter into the floor of the skull in bony fishes.

2. Describe the mode of development, and final form and composition, of the occipital bone in man. Describe its articulation with the spinal column, and compare and contrast it in all respects with the homologous elements in birds, in reptiles, in batrachians, and in fishes.

3. What characters, derived from their structure and mode of insertion, distinguish the teeth of mammals, of reptiles, and of fishes?

4. Describe the dentition of the ferae, and contrast it with that of the ruminants.

5. Describe the modifications of the arm and hand in falco, in vespertilio, in raia, in gadus, in pterodactylus, in delphinus, and in ichthyosaurus.

6. Distinguish the horse from the ox by osteological characters.

7. Describe in detail the dentition of the hare, and distinguish it from that of the porcupine.

8. Describe the mode of origin, the structure, and the functions of the placenta, and define the differences between placental and aplacental mammals.

9. Give in detail and contrast the characters of the monotremata and of the marsupialia.

10. Describe the mode of formation of the amnion and the allantois in connexion with the mammalian ovum.

11. In which vertebrate classes is the amnion wanting?

12. Contrast the respiratory systems in batrachians with *permanent* and with *temporary* gills.

FIRST YEAR STUDENTS.

LAW OF PROPERTY.—*Examiner, Professor Molyneux.*

1. In what particulars do the rules governing the transmission of *real* property of a deceased intestate to his issue differ from those regulating the transmission of his *personal* property to his issue, and in what respects are they identical?

2. What is the construction put upon a clause or limitation to the heirs of the testator or grantor by the statute for amending the law of inheritance; and what had been the construction of such instruments in that respect before the Act; and how does such difference of construction lead to different results in tracing descent?

3. A makes a lease to B for 25 years, from the 1st January, 1835. B entere into possession of the demised lands and pays rent for 10 years. B, in the year 1836, permits C to enter into possession of the demised lands as tenant-at-will, who continues in possession without payment of any rent, or giving any acknowledgment of title, down to the 1st of January, 1861; what are the rights of C (if any) against A and B respectively?

4. What personal property of the wife, which had been hers before marriage, passes to the representatives of the husband on his decease, and what survives to the wife?

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General Class Examination.

5. What interest does the husband take in the *real* property of the wife; and what interest in her *personal* property?

6. In what way, to what extent, and on what principle, do Courts of Equity modify marital rights in respect to the wife's property?

7. By what means can a husband now defeat the claims of his wife to dower?

8. What was the policy of the Irish Tithe Acts, and how was that policy carried out by those Acts?

9. In what respect does the law of judgments, as charges on land in *Ireland*, differ from that of *England*?

10. What is the scope and plan of the *Irish* Registry Acts; and in what respect are they superior to the Local Registry Acts in England?

11. To what extent are voluntary deeds valid, and in what instances shall they prevail against creditors?

12. What is the construction put upon the words to "A B and his issue," as a limitation in a deed; and what when used in a will?

13. How does a conveyance of land to a purchaser under the Court of Chancery differ from that under the "Landed Estates Court" as regards the purchaser?

14. Define a remainder.

15. Define an executory devise.

16. Define a conditional limitation.

17. What persons can alone take advantage of a condition at common law?

18. Define a reversion.

19. In what instance can a tenant in tail bar the remainders over without the intervention of a protector of the settlement?

20. What words are essential to create an estate tail in a deed?

21. Estate to A B for life, remainder to C D and his heirs, remainder to E F and the heirs of his body; what estates are hereby created?

22. How do the incidents of joint tenancy differ from those of tenancy in common?

23. What were the several forms of conveyance of freehold estates before the 8th and 9th Victoria?

24. In what instances does the Statute of Uses not operate?

25. In what way is an *implied* surrender of a lease effected?

26. What is the difference between a reversionary lease and a lease of the reversion?

27. State a case in which the same lease may operate in part as a lease of the reversion and in part as a lease in possession at different periods of the term.

28. State what modifications in real property are created in modern conveyances through the application of the Statute of Uses, which could not be effected in a common law conveyance.

THIRD YEAR STUDENTS.

POLITICAL ECONOMY.—*Examiner, Professor Leslie.*

1. State and prove the economic theory of land rent.

2. Explain the causes which determine the average rate of wages.

3. Give examples of the different effects of different modes of expenditure of income upon the rate of wages.

4. Explain the causes which determine the average rate of profit.

5. What are the causes which diversify the rates of wages and profit in different employments?

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General Class Examination.

6. What are the constituent elements of gross profit?

7. Give examples of the influence of each of the above constituent elements of profit upon its amount in different occupations.

8. Explain the terms *fixed* and *circulating* capital, and give examples of each.

9. Point out and prove the error of Mr. Senior's doctrine respecting the effect of English absenteeism on the rate of wages.

10. In what cases does the introduction of machinery tend, in the first instance, to lower the rate of wages?

11. In what cases does the introduction of machinery tend at once to raise the rate of wages?

12. Show how the prices of commodities are regulated by their cost of production.

13. How is the value of gold affected by its cost of production?

14. How does an addition to the stock of the precious metals affect the prices of different commodities and in different places?

15. Upon what circumstances will the price of the following commodities at the end of the present century depend:—

(*a*) Cotton Manufactures?
(*b*) Bread?
(*c*) Beef?

English Literature.—*Examiner, Professor Craik.*

1. Define Literature.

2. Explain the relation of diction to thought.

3. Give an account of the only two Revolutions which the English Language has undergone during the time over which our knowledge of it extends, explaining the nature and the cause of each.

4. Give an account of the English Language at the present day, in respect of:—first, its Vocabulary; secondly, its Grammatical Structure.

5. Compare the English Language as an instrument of expression with any other language, ancient or modern, with which you are acquainted.

6. Sketch rapidly so much of the life either of Chaucer, or of Shakespeare, or of Milton, as is independent of their literary productions.

7. Characterize the poetical genius of Chaucer.

8. Give an account of the manner in which Shakespeare has set before us any one of the leading characters in his *Julius Cæsar*.

9. Write a short criticism either on Milton's Lycidas, or on his L'Allegro, or on any two of his Sonnets.

10. Sketch the history of Poetry in England throughout the eighteenth century.

11. Give a short account of any English literary work of the present century, in prose or in verse, that you have read.

12. Estimate the genius of any living English poetical writer, noticing such of his works as you are acquainted with.

Metaphysics.—*Examiner, Dr. M'Cosh.*

1. How would you answer the following?—" It is preposterous to suppose that the objective world corresponds to our subjective perceptions. The pain is not in the tooth; colour is not in the rainbow; they must

Appendix, No. 8.

General Class Examination.

be in the mind. The quay seems to be moving to those who are leaving it in the ship."

2. What seem to be our original perceptions by the sense of sight? How do we come to ascertain distance by the eye? You may give historical notices of opinions.

3. Locke says we get our idea of time from reflexion. Examine this view, and show precisely how we get the idea in the concrete and in the abstract.

4. Give an analysis of the powers involved in the imagination. Brown represents imagination as the combination of conceptions or images according to the laws of suggestion. Is this account adequate? What seems to be wanting?

5. What are the faculties involved in the formation of the various kinds of notions, specially the general notion?

6. What seems to raise the feeling of the ludicrous? What of the sublime? Show how it so may happen that there is but one step from the sublime to the ludicrous.

7. To what class of mental powers would you refer wishes? Wherein does wish or desire differ from volition? Show how will may sway the judgment, and make its decisions morally good or evil.

8. How would you establish the identity of self; and how the identity of an external object, say of a particular mountain, or of a man tried at a criminal court?

9. Specify some intuitive principles falling under the head of quantity. Are mathematical axioms generalizations of sense? In what sense are they generalizations?

10. What more is there in cause and effect than invariable antecedence and consequence? You are invited to give historical notices of opinions.

11. What field does Bacon allot to Metaphysics? In answering this question, explain his phrases. Bacon declared his method to be applicable to mental science: how? In what respects were his views defective on this subject?

12. Where, and in what year, was Hobbes born? Name his most celebrated treatise. What place does he give to public force? In answering this question, say how public force may be limited.

13. Name some of the philosophic works of Descartes. State and examine his famous *Cogito ergo sum.*

14. What is Spinoza's definition of substance? What consequences did he draw from it? So explain what is involved in substance as to show that these consequences do not follow.

15. What are the subjects treated of in each of the books of Locke's Essay? Where does he treat of knowledge? What is his account of it? Examine it.

16. What is Samuel Clarke's view of space and time? What part did they act in his argument in favour of the Divine existence? Examine his views on this subject.

17. Some say that the moral power in man is a sentiment, others that it is an exercise of reason. Arrange the British moralists of the seventeenth and eighteenth centuries into two classes, according as they held one or other of these views, and indicate the peculiar opinions of each.

18. What is Kant's account of causation? of the internal principle and objective relation?

19. Reid says reason has two degrees. Explain this. What does he mean by common sense? What are his judgments of common sense relating to contingent truth? Do all of them seem intuitive?

20. What is Brown's division of emotions? What is his view of beauty? Wherein does it differ from that of Alison and Jeffrey?

General Class Examination.

α. Some say that philosophy depends on consciousness. Others say on common sense. Others on intuition. Show what truth there is in each of these statements. Can we construct a philosophy solely by means of consciousness or intuition?

β. How would you show mind and body to be substances, and separate substances? In answering this question give historical notices of opinions.

γ. What is the dynamical theory of matter? Examine it, and give historical notices of opinions.

δ. Examine the following:—"Consciousness necessarily implies distinction between one object and another. To be conscious, we must be conscious of something; and that something can only be known as that which it is, by being distinguished from that which it is not."

ε. What is the discussion as to the relativity of knowledge? Give historical notices of opinions.

α′. In what relation does intuition stand to the ordinary faculties? In what relation do metaphysics stand to psychology? You may give historical notices.

β′. Show in a general way how Kant met the scepticism of Hume. Was his method successful?

γ′. Show precisely the relation in which the philosophy of Fichte stood to that of Kant. How far was Kant responsible for the idealism of Fichte?

δ′. What are the views of Descartes and Cousin as to our idea of the infinite? You are invited to examine them, and to show what is involved in our idea and belief as to infinity.

ε′. What were the ends proposed respectively by Aristotle, Kant, and Cousin, in their categories? You are invited to offer comments.

GEOLOGY.—*Examiner, Professor Wyville Thomson.*

1. What are the component minerals of Granite? State generally their chemical composition.

2. Give in detail the distinctions between Granite, Syenite, and Gneiss?

3. A section consists in ascending order of a bed of Sandstone, a bed of Shale, a bed of Trap, a bed of Sandstone, and a bed of Shale; how would you determine the relative age of the Trap bed?

4. Describe a Geyser, and explain the theory of its phenomena.

5. Give a sketch of the principal modifications of the *Cephalopoda*, from the Lower Silurians up to the Chalk.

6. Give the characters of a volcanic ash.

7. Name three fossils specially characteristic of each of the following formations,—the Llandeilo flags; the upper Ludlow beds; the lower Carboniferous Limestone; the bone bed of the Trias, and the lower Greensand.

8. Sketch the Zoological and the Geological relations of the genus Trinucleus.

9. Name, and briefly describe, the principal genera of fossil plants characteristic of the coal measures.

10. How would you distinguish the skeleton of a pterodactyl from that of a bird?

Appendix, No. 3.

General Class Examination.

ENGLISH LAW.—*Examiner, Professor Molyneux.*

PLEADING, EVIDENCE, WILLS, POWERS, &c.

1. A, under a power, appoints a fee simple estate to B and his heirs, to the use of C and his heirs. What estates, legal and equitable, do B and C respectively take?

2. What is a power appendant, and what a power in gross? To which class is to be referred the power to make leases reserved to tenants for life under settlements?

3. State, in general terms, the rule for determining how far a power is suspended or extinguished by any act of the donee of the power, having also an interest in the estate, affecting the estate the subject of the power.

4. Is there any instance in which a tenant for life having a power to charge the inheritance with a sum in gross for his own benefit, the estate can be so charged after the life estate has been aliened? and if so, state the instance.

5. The Inheritance Act, 3 and 4 William IV., ch. 106, sec. 3, provides, that where, after the statute, a testator devises to a person who is his heir, the heir takes by purchase and not by descent. What difference does that enactment make in tracing descent, as contrasted with the old law?

6. What alteration in the law is effected by the Statute of Wills, 1 Vict., in relation to the exercise of powers by will?

7. Testator devises an estate which he had contracted to purchase for £10,000, but which purchase had not been completed at the time of his death: his executors cannot realize more than half the price of the estate out of the testator's personal assets, and the purchase therefore fails. What, therefore, is the result, in point of right, as between the devisee and personal representatives?

8. Demonstrate how the reception of parol evidence, to explain a latent ambiguity in a written instrument, does not violate the general rule of evidence which excludes parol evidence in aid of the construction of written instruments.

9. What is the difference in administering assets, where legacies are charged on real estate, and where the personal estate is exonerated from payment of legacies?

10. What are legal and what equitable assets, and what difference is there in their distribution?

11. What is the nature of the limitation created by the operation of the 29th section of the Wills Act in relation to words importing failure of issue; and what was the construction put by the Courts before the statute on the words enumerated in that section?

12. Before the Statute altering the law of dower, A dies, seized of an estate in fee simple, which he devises to B, and also leaves a legacy to his wife. Is she put to her election between her dower and the bequest; and if not, why not?

13. In what instance is it competent for a married woman to make a will?

14. In what way does the different course of procedure in Courts of Law and Equity lead to different modes of pleading?

15. What object has been gained by the abolition of the general issue in assumpsit as regards the direction of proofs?

16. What advantage has the present proceeding in ejectment over other civil actions *in respect of parties to the suit*, which was suggested by the fiction adopted in the old proceeding?

17. What are the particulars in which a party may obtain a revision

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General Class Examination.

of the decisions of a Judge at *Nisi Prius*, and what course must be pursued to obtain the judgment of the House of Lords as a matter of right upon the points of objection?

18. To what matters is a writ of error limited in criminal cases, and subject to what condition is it attainable?

19. By what process alone can cases of Treason or Felony become cognizable by the Court of Queen's Bench?

20. What is the object of the proceeding by mandamus, and how has that proceeding been rendered more efficient in certain cases by the provisions of the "Common Law Procedure Act."

21. What proceedings are now within the jurisdiction of Courts of Law in the course of civil actions, which could formerly have been attainable solely through the ancillary jurisdiction of Courts of Equity?

22. What was the former, and what is the present, mode of presenting matters of Scotch Law upon trials in our Courts?

23. What is the exception to the general rule, that the judgments of foreign tribunals are not examinable in our Courts?

24. What is the difference between estoppel and conclusive evidence?

25. Give some instances in which hearsay is receivable in evidence.

26. State the rule and some of the exceptions with respect to the question—Upon what party the burden of proof lies *prima facie?*

27. What are the two conditions under which *res judicata* is conclusive in civil actions, and which must be proved by the person pleading it?

28. How is an ancient deed provable.

29. What is the anomaly as to proof in trials for High Treason?

30. What are the relations and occasions which give rise to privileged communications, and on what presumption is the privilege based, and how may that presumption be rebutted and the privilege lost?

31. What twofold alteration was effected by the Wills Act, 1 Vict., in relation to the doctrine of lapse?

COMMON AND CRIMINAL LAW.

1. What jurisdiction does the Court of Queen's Bench exercise in criminal matters?

2. What changes have been effected in the law in relation to principals and accessories?

3. How far are the decisions of the Judge presiding at a criminal trial subject to revision on a writ of error?

4. What is the punishment for misdemeanour at Common Law.

5. What are the privileges conceded by statute to persons on trial for High Treason, which are not admissible on trials for Felony?

6. Enumerate the several subjects upon which the Court of Queen's Bench exercises a controlling power over inferior tribunals and public officers.

7. What Court possesses exclusive jurisdiction in the action of "*Quære impedit?*"

8. In what instance will an action at law lie against the vendor of an unsound horse at the suit of the vendee, where no warranty has been given?

9. What is the extent of the responsibility of carriers at Common Law?

10. In what class of cases does the Common Law recognise a moral consideration?

11. What instance constitutes an exception to the Common Law principle that a *chose* in action is not assignable?

12. What are the two modes by which title to land can be tried in a Common Law Court?

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General Class Examination.

13. In what respect is the liability to the consequences of slander of private persons more limited in a criminal Court than in a civil action?

14. What modification of the maxim—"*Actio personalis moritur cum persona*"—has been introduced into our law by statute?

15. A contracts with B, C, and D jointly. All the contractors die. Who must be the parties, Plaintiff and Defendant, to an action founded on the contract?

16. When does the right of "stoppage *in transitu*" determine?

17. In what instance are goods sold held by the vendor at his risk, although the contract is complete?

18. At whose suit is the rent of the wife's freehold lands to be recovered during coverture, where the rent had been reserved upon a letting by the wife's deceased ancestor?

19. What are the necessary incidents to render a guarantee binding?

20. In what instance is a vendor disentitled to a lien for the purchase-money on the sale of goods?

21. What dealing between the original parties deprives the creditor of his remedy against a surety?

22. On what legal ground is it that payment of a lesser sum, accepted in discharge of a greater, is not a good defence?

23. What facts are necessary to entitle the person holding an order for delivery of goods placed in store by the vendor, to recover in an action against the warehouseman for non-delivery of the goods?

24. What proofs are necessary to sustain an action by the indorsee against the drawer of a Bill of Exchange made payable to the order of the latter?

LOGIC.—*Examiner, Professor M'Cosh.*

1. State, explain, and examine Kant's definition, and also his division, of Logic. In what sense is Logic an *a priori* science?

2. What is the precise nature of the generalized concrete notion? Can such a notion be defined? If so, how?

3. What does every judgment declare, according to Aristotle? Explain the phrases employed by him. Unfold the nature of Thomson's two predicable classes, and give examples.

4. Mention the various ways in which we may obtain transposed propositions or immediate inferences.

5. Mention the principal forms in which eminent logicians have put the supreme canon of mediate reasoning. You may offer critical notices.

6. State and examine Mill's theory of the reasoning process.

7. Mention the more important points of the New Analytic of Logical Forms. Discuss the question whether there can be reasoning in comprehension, and, as you do so, give examples.

8.

All stars are in the sky;
Some stars are all the planets;
All the planets are in the sky.

Indicate the mood and figure of the above, according to the New Analytic. Give the form in which the reasoning would be put in the Old Logic. You are invited to offer comments as to the two methods.

9. Mention some of the points of dispute between Whewell and Mill. Discuss the question, whether laws are in the mind or in nature.

10. What seem to be the original constituents of the physical universe? What is the nature of the obvious order resulting? What precise ends does science seek to accomplish?

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General Class Examination.

11. Show fully that there are always more agents than one in every physical cause and in every physical effect. Explain and examine the distinctions between causes and occasions, causes and conditions, causes and circumstances, agent and patient.

12. Show what is involved in deduction, and what place it has in the various sciences.

13. What are the criteria of truth in the various departments of investigation?

HONOR QUESTIONS.

α. Does conditional reasoning differ in its nature and regulating principles from categorical?

β. Suppose that we hold that there may be an abstract notion which is not general, what change must this effect in the construction of the science of Logic?

LOGIC.—*Examiner, Professor M'Cosh.*

1. Name the principal philosophers of the Ionic and Eleatic Schools. Give some account of the speculations of the Eleatic School.

2. Show how Plato sought to reconcile the Ionic and Eleatic Schools, and specify his obligations to the Pythagorean School. How far does Plato's theory of ideas seem to you to be true, and how far unsatisfactory?

3. In what relation did Plato's doctrine of ideas stand to his view of beauty? Give a general account of his theory of beauty.

4. Specify some of the peculiar philosophic phrases of Aristotle; unfold their meaning, and explain the distinctions involved in them.

5. State and examine Locke's view of intuition.

6. When and where was Francis Hutcheson born? Name his principal works, and give an account of his views as to the senses, external and internal.

7. Give a brief account of Hume's system of the human mind. Show wherein it was sceptical, and indicate how it is to be met.

8. Show precisely how Reid met the scepticism of Hume, and in doing so, specify what is excellent and what is defective in his exposition of the principles of common sense.

9. What is Kant's classification of the theistic arguments? what his objections to them? Can they be answered?

10. What are the views of Leibnitz, of Sir W. Hamilton, and the younger Fichte, as to unconscious mental operations? Examine them.

11. Give some historical and critical notices of opinions as to the senses deceiving us.

HONOR QUESTIONS.

α. Can the doctrine of the correlation of the forces be carried out so as to embrace the operations of the human mind?

β. Discuss, with historical notices, the question of the relativity of knowledge.

APRIL.

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

[1st Year Students are required to answer questions 1, 2, 3; 2nd Year, 1, 2, 3, 4; 3rd and 4th Year, 3, 4, 5.]

1. State the chemical, physical, and vital properties of fibrous, muscular, and nervous tissues, and give illustrations by experiment.

2. State the size, by weight or measurement, or both, of the liver, kidney, pancreas, spleen, heart, lungs, salivary glands, and uterus.

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3. Describe the position and character of the capillary plexuses of the gastric tubular glands; of muscle, tendon, and cornea; of the lobules of the liver; the choroid membrane; pulmonary vesicles; solitary glands of the intestine; Malpighian corpuscles and convoluted tubes of the kidney.

4. State the properties and functions of the skin, and illustrate these by the effects of suppressed action, and the result of destruction and repair of skin in small and large portions.

5. In what parts of the body does the blood present marked differences of character and composition? What are these differences?

Practical Anatomy.—*Examiner, Dr. Redfern.*

[1st Year Students are required to answer questions 1, 2, 3, 4; 2nd Year, 1, 2, 3, 4, 5; 3rd and 4th Year, 2, 5, 6, 7, 8.]

1. State the distinguishing characteristics of the male and female skeleton; of the 1st, 10th, 11th, and 12th dorsal vertebræ; and of the fibula, semilunar, astragalus, and external cuneiform bones of the left side of the body.

2. Describe and trace the synovial membranes of the carpal, elbow, and knee joints.

3. What movements occur at the radio-carpal joint, and by what muscles is each produced?

4. What branches of nerves supply the skin of the upper limb, from the shoulder downwards?

5. Name the nerve or nerves of the following muscles, and state at what part of the muscle each nerve enters:—Sterno-mastoid, Digastric, Buccinator, Thyro-hyoid, Crico-arytenoideus posticus, Arytenoideus, Pyriformis, Obturator internus, Pectineus, Rectus femoris, Extensor brevis digitorum.

6. Describe the method of exposing and examining each of the structures of the eye.

7. State the steps of a post-mortem examination of the thoracic viscera; name the parts in order, and state how each is to be exposed and examined.

8. The larynx being removed with the trachea and hyoid bone, state a method of dissection to expose all the parts of the larynx, and where each will be found.

Practice of Medicine.—*Examiner, Professor Ferguson.*

1. Describe all the changes in the lung's substance induced by Pneumonia, the physical signs of each, and the indications of treatment.

2. Enumerate the chief causes of Tuberculosis. What form does it assume in the lung's substance? All the changes it undergoes, and the signs of each?

3. Give the differential diagnosis of Hysteria, Epilepsy, Chorea, and Catalepsy.

4. Describe the appearances presented in the brain from an attack of apoplexy; also the indications of treatment.

5. Enumerate all the auscultatory phenomena of the voice, and the condition of the lung that gives rise to each.

Surgery.—*Examiner, Dr. Gordon.*

1. Describe the signs, treatment, and differential diagnosis of the fractures which implicate and occur in the immediate vicinity of the elbow joint.

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General Class Examination.

2. Describe the structure, treatment, and differential diagnosis of the Chronic Mammary Tumour.

3. Describe the changes that occur in bones attacked with Scrofulous Ostitis, and the circumstances which indicate or contra-indicate operative interference.

4. Describe the different forms of fracture of the Clavicle, the displacement that occurs, and the treatment.

5. Enumerate the diseases to which the maxillary bones are most subject, and describe briefly their diagnostic signs and treatment.

MATERIA MEDICA.—*Examiner, Dr. Reid.*

1. How are Emetic Medicines classified?

2. Mention one belonging to each class.

3. Write a prescription for the administration of each in a fluid form to an adult, and to a child aged two years.

4. Can Emetics be used with equal safety by the young and the aged, and why are they dangerous to one class?

5. Which alkali would you select when treating a case of Lithic Acid Diathesis, and why?

6. What amount of Potash, Soda, and Ammonia are respectively required to saturate 20 grains Citric Acid?

7. In what respect does the Liquor Ammoniæ Acetatis of the British Pharmacopœia differ from the same medicine in former Pharmacopœias?

8. Write a prescription for the administration of the preparation of the British Pharmacopœia to an adult, stating the directions you would give to your patient, if you wished for its Diaphoretic or Diuretic action.

9. In what respect does the Infusion of Digitalis of the British Pharmacopœia differ from that formerly in use?

10. Write a prescription for its administration to an adult.

11. What have you to guard against whilst using it, and what are the indications that you should stop it?

12. Name the medicines on the table, and classify them therapeutically.

MIDWIFERY.—*Examiner, Dr. Burden.*

1. How would you ascertain the length of time a patient has been pregnant?

2. Describe the True Areola of the breast of pregnancy.

3. Describe the False Areola, and wherein it differs from the true.

4. Trace the progress of natural labour minutely, from beginning to end.

5. How would you treat a patient before, during, and subsequently to, labour, who, after every previous delivery, has had a flooding?

MEDICAL JURISPRUDENCE.—*Examiner, Dr. Hodges.*

1. Describe Graham and Hofmann's process for the detection of strychnine in organic mixtures.

2. How is strychnine to be detected in the presence of morphine?

3. Mention the symptoms of poisoning by aconite, and the treatment required.

4. Describe the precautions to be observed in the application of the hydrostatic test in cases of supposed infanticide.

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General Class Examination.

5. State the rules to be followed in examining wounds on the bodies of persons found dead.

6. When lime has been administered as an antidote to oxalic acid, by what means is the poison to be separated from the contents of the stomach?

JUNE.

GREEK.—*Examiner, Professor MacDouall.*

FIRST YEAR STUDENTS.

I. Translate accurately the annexed extract from the *Cyropaedeia* of XENOPHON :—

ὅταν δὲ ἐξίῃ[1] ὁ βασιλεὺς ἐπὶ θήραν, ἐξάγει μὲν τὲν ἡμίσειαν τῆς φυλακῆς τὰς δὲ ἡμισείας[1] φυλὰς καταλείπει· ποιεῖ δὲ τοῦτο πολλάκις τοῦ[3] μηνός.[3] * * * * ἐξέρχονται δὲ [οἱ ἔφηβοι] ἐπὶ τὴν θήραν ἄριστον[2] ἔχοντες πλεῖον μέν, ὡς τὸ εἰκός,[1] τῶν παίδων, τἄλλα[1] δὲ ὅμοιον. καὶ θηρῶντες μὲν οὐκ ἂν ἀριστήσαιεν,[1] ἢν δέ τι δεήσῃ[1] ἢ θηρίου ἕνεκα ἐπικαταμεῖναι[1] ἢ ἄλλως ἐθελήσωσι διατρῖψαι[1] περὶ τὴν θήραν, τὸ ἄριστον τοῦτο δειπνήσαντες τὴν[3] ὑστεραίαν[3] αὖ θηρῶσι μέχρι δείπνου, καὶ μίαν ἄμφω τούτω[3] τὼ[3] ἡμέρα[3] λογίζονται, ὅτι μιᾶς ἡμέρας σῖτον δαπανῶσι.[1] τοῦτο δὲ ποιοῦσι τοῦ ἐθίζεσθαι ἕνεκα, ἵνα, ἐάν τι καὶ ἐν πολέμῳ δεήσῃ, δύνωνται τοῦτο ποιεῖν. καὶ ὄψον[2] δὲ τοῦτο ἔχουσιν οἱ τηλικοῦτοι[2] ὅτι ἂν θηράσωσιν, εἰ δὲ μή, τὸ κάρδαμον. εἰ δέ τις αὐτοὺς οἴεται ἢ ἐσθίειν[1] ἀηδῶς,[2] ὅταν κάρδαμον μόνον ἔχωσιν ἐπὶ τῷ σίτῳ, ἢ πίνειν ἀηδῶς, ὅταν ὕδωρ πίνωσιν, ἀναμνησθήτω[1] πῶς[3] ἡδὺ[3] μὲν μᾶζα[3] καὶ ἄρτος πεινῶντι φαγεῖν,[3] πῶς δὲ ἡδὺ ὕδωρ πιεῖν[1] διψῶντι.[1] αἱ δ' αυ μένουσαι φυλαὶ διατρίβουσι[3] μελετῶσαι[2] τά τε ἄλλα ἃ παῖδες ὄντες ἔμαθον[1] καὶ τοξεύειν καὶ ἀκοντίζειν· καὶ διαγωνιζόμενοι[3] ταῦτα πρὸς ἀλλήλους διατελοῦσιν.[3] εἰσὶ δὲ καὶ δημόσιοι[2] τούτων ἀγῶνες καὶ ἆθλα[3] προτίθεται·[3] ἐν ᾗ δ' ἂν τῶν φυλῶν πλεῖστοι ὦσι δαημονέστατοι[2] καὶ ἀνδρικώτατοι καὶ εὐπιστότατοι,[2] ἐπαινοῦσιν[1] οἱ πολῖται καὶ τιμῶσιν οὐ μόνον τὸν νῦν ἄρχοντα αὐτῶν ἀλλὰ καὶ ὅστις[3] αὐτοὺς παῖδας ὄντας ἐπαίδευσε. χρῶνται δὲ τοῖς[3] μένουσι[3] τῶν ἐφήβων[2] αἱ ἀρχαί, ἤν τι ἢ φρουρῆσαι[2] δεήσῃ ἢ κακούργους[2] ἐρευνῆσαι[1] ἢ λῃστὰς[2] ὑποδραμεῖν[1] ἢ καὶ ἄλλο[3] τι[3] ὅσα[3] ἰσχύος τε καὶ τάχους ἔργα ἐστί.[3]

1. Parse fully and accurately the words thus numbered.
2. Derive or decompound the words thus numbered.
3. Explain the construction of the phrases thus numbered.
4. In regard to every verb in the subjunctive mode, whether in passing or in past time, account both for the use of the mode and for the presence or the absence of ἄν, assorting all the examples under their respective rules.

II. The sentences omitted above are to be now replaced from the following version :—

Those who go out must have each a bow with arrows in a quiver, a dirk or hanger in a sheath, a buckler, and also two javelins—the one to be discharged, the other (if occasion arise) to be used in close encounter. Now the reason why the chase is thus made a public institution,—in which the King takes an active part, leading and superintending just as in a campaign,—is, that this is considered to be the best training for war. For, since it habituates the youths to be early a-foot and to endure cold and heat,—exercises them in long-continued and rapid movements,—and requiring them to bring down with their missiles whatever beast of prey may present itself, keeps their mental faculties on the alert: as they must be ready both to smite at close quarters and to repel a threatened attack, one can hardly fancy any military operation which is not practised in the chase.

Appendix, No. 8. General Class Examination.

I.—Translate these lines from the *Hercules Furens* of EURIPIDES :—

ΛΥΚΟΣ. σὺ μὲν λέγ᾽ ἡμᾶς οἷς[3] πεπύργωσαι[4] λόγοις,[3]
ἐγὼ δὲ δράσω σ᾽ ἀντὶ τῶν λόγων κακῶς.
ἄγ᾽ οἱ μὲν Ἑλικῶν᾽ οἱ δὲ Παρνασοῦ πτύχας
τέμνειν ἄνωχθ᾽[1] ἐλθόντες ὑλουργοὺς[3] δρυὸς
κορμούς·[2] ἐπειδὰν δ᾽ εἰσκομισθῶσιν[1] πόλει,
βωμὸν πέριξ νήσαντες[1] ἀμφήρη[3] ξύλα
ἐμπίπρατ᾽[1] αὐτῶν καὶ πυροῦτε σώματα
πάντων, ἵν᾽ εἰδῶσ᾽[1] οὕνεκ᾽[4] οὐχ ὁ κατθανὼν
κρατεῖ χθονὸς τῆσδ᾽, ἀλλ᾽ ἐγὼ τὰ νῦν τάδε.
ὑμεῖς δέ, πρέσβεις ![1] ταῖς ἐμαῖς ἐναντίοι
γνώμαις ἰόντες οὐ μόνον στενάξετε
τοὺς Ἡρακλείους παῖδας, ἀλλὰ καὶ δόμου
τύχας, ὅταν πάσχῃ τι, μεμνήσεσθε[1] δὲ
δοῦλοι γεγῶτες[3] τῆς[3] ἐμῆς τυραννίδος.
ΧΟΡΟΣ. ὦ γῆς λοχεύμαθ᾽,[2] οὓς Ἄρει σπείρει[4] ποτὲ
Κάδμος δράκοντος ἐξερημώσας[4] γένυν !
οὐ σκῆπτρα χειρὸς δεξιᾶς ἐρείσματα[3]
ἀρεῖτε[1] καὶ τοῦδ᾽ ἀνδρὸς ἀνόσιον κάρα[1]
καθαιματώσεθ᾽, ὅστις οὐ Καδμεῖος ὢν
ἄρχει κάκιστος τῶν νέων ἐπηλύδων ;[2]
ἀλλ᾽ οὐκ ἐμοῦ[3] γε δεσπόσεις χαίρων ποτέ,
οὐδ᾽ ἁπόνησα[3] πολλ᾽ ἐγὼ καμὼν χερὶ
ἕξεις· ἀπέρρων[2] δ᾽ ἔνθεν[3] ἦλθες ἐνθάδε
ὕβριζ᾽· ἐμοῦ γὰρ ζῶντος οὐ κτενεῖς ποτε
τοὺς Ἡρακλείους παῖδας· οὐ τοσόνδε γῆς
ἔνερθ᾽ ἐκεῖνος κρύπτεται λιπὼν τέκνα.
ἐπεὶ σὺ μὲν γῆν τήνδε διολέσας[3] ἔχεις,[3]
ὁ δ᾽ ὠφελήσας ἀξίων οὐ τυγχάνει.
κᾆπειτα πράσσω[4] πόλλ᾽[4] ἐγὼ φίλους ἐμοὺς
θανόντας εὖ δρῶν οὗ[3] φίλων μάλιστα δεῖ ;
ὦ δεξιὰ χείρ ! ὡς ποθεῖς λαβεῖν δόρυ,
ἐν δ᾽ ἀσθενείᾳ τὸν πόθον διώλεσας !

1. Parse the words thus numbered.
2. Derive or decompound the words thus numbered.
3. Explain the construction of the words thus numbered.
4. Point out whatever may be noticeable in the usage of the words or phrases thus numbered.
5. Note any trisyllabic feet which occur in these lines.

Appendix, No. 8.

General Class Examination.

II.—Translate either in iambic trimeters or in dactylic hexameters:—

Tell the story, tongue and tower!
England's Hope and Denmark's Flower—
Tell the tale! Their vows are plighted,
Hearts and hands and souls united.
Joy to all our new relations!
Peace and love among the nations!
Tell it—tell it, bells and voices!
Oh how the green old land rejoices!

SECOND YEAR STUDENTS.

I.—1. Translate accurately these lines from the *Odysseia*, Book XIII.:—

Τὴν δ' ἀπαμειβόμενος προσέφη πολύμητις Ὀδυσσεύς·
"ὦ πόποι! ἦ μάλα δὴ Ἀγαμέμνονος Ἀτρεΐδαο
φθίσεσθαι κακὸν οἶτον ἐνὶ μεγάροισιν ἔμελλον,
εἰ μή μοι σὺ ἕκαστα, θεά! κατὰ μοῖραν ἔειπες.
ἀλλ' ἄγε μῆτιν ὕφηνον, ὅπως ἀποτίσομαι αὐτούς·
πὰρ δέ μοι αὐτὴ στῆθι μένος πολυθαρσὲς ἐνεῖσα,
οἷον ὅτε Τροίης λύομεν λιπαρὰ κρήδεμνα.
καί κε τριηκοσίοισιν ἐγὼν ἄνδρεσσι μαχοίμην,
σὺν σοί, πότνα θεά! ὅτε μοι πρόφρασσ' ἐπαρήγοις."
τὸν δ' ἠμείβετ' ἔπειτα θεὰ γλαυκῶπις Ἀθήνη·
"καὶ λίην τοι ἔγω γε παρέσσομαι, οὐδέ με λήσεις,
ὁππότε κεν δὴ ταῦτα πενώμεθα· καί τιν' ὀΐω
αἵματί τ' ἐγκεφάλῳ τε παλαξέμεν ἄσπετον οὖδας,
ἀνδρῶν μνηστήρων, οἵ τοι βίοτον κατέδουσιν.
ἀλλ' ἄγε σ' ἄγνωστον τεύξω πάντεσσι βροτοῖσιν.
κάρψω μὲν χρόα καλὸν ἐνὶ γναμπτοῖσι μέλεσσιν,
ξανθὰς δ' ἐκ κεφαλῆς ὀλέσω τρίχας, ἀμφὶ δὲ λαῖφος
ἕσσω, ὅ κε στυγέῃσι ἰδὼν ἄνθρωπος ἔχοντα,
κνυζώσω δέ τοι ὄσσε πάρος περικαλλέ' ἐόντε,
ὡς ἂν ἀεικέλιος πᾶσι μνηστῆρσι φανείης,
σῇ τ' ἀλόχῳ καὶ παιδί, τὸν ἐν μεγάροισιν ἔλειπες.
αὐτὸς δὲ πρώτιστα συβώτην εἰσαφικέσθαι,
ὅς τοι ὑῶν ἐπίουρος ὁμῶς σοί τ' ἤπια οἶδεν
παῖδά τε σὸν φιλέει καὶ ἐχέφρονα Πηνελόπειαν.
δήεις τόν γε σύεσσι παρήμενον· αἳ δὲ νέμονται
πὰρ Κόρακος πέτρῃ ἐπί τε κρήνῃ Ἀρεθούσης,
ἔσθουσαι βάλανον μενοεικέα καὶ μέλαν ὕδωρ
πίνουσαι, τά θ' ὕεσσι τρέφει τεθαλυῖαν ἀλοιφήν.
ἔνθα μένειν καὶ πάντα παρήμενος ἐξερέεσθαι,
ὄφρ' ἂν ἐγὼν ἔλθω Σπάρτην ἐς καλλιγύναικα
Τηλέμαχον καλέουσα τεὸν φίλον υἱόν, Ὀδυσσεῦ!
ὅς τοι ἐς εὐρύχορον Λακεδαίμονα πὰρ Μενέλαον
ᾤχετο πευσόμενος μετὰ σὸν κλέος, εἴ που ἔτ' εἴης."

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2. Point out various *vocables* in this extract which are exclusively Homeric, referring them (when you can) to their *etyma*, and substituting equivalents in the Attic or common language.

3. Select some of the more noticeable *forms* of verbs, nouns, and pronouns, classifying them, elucidating their analogy, and annexing their Attic counterparts.

4. What do you remark upon the *construction* of ὅπως ἀποτίσομαι αὐτούς,—καί κε μαχοίμην, ὅτε μοι ἐπαρήγοις,—ἀλλ' ἄγε τεύξω,—ὅ κε στυγέῃσι ἰδὼν ἄνθρωπος ἔχοντα,—ὡς ἂν φανείης,—αὐτὸς δὲ εἰσαφικέσθαι,—σοί τ' ἤπια οἶδεν,—πευσόμενος μετὰ σὸν κλέος εἴ που ἔτ' εἴης?

I.—1. Translate the annexed extract from Herodotus, Book II. :—

Ἔθυον δὲ πάντα πρότερον οἱ Πελασγοὶ θεοῖσι ἐπευχόμενοι, ὡς ἐγὼ ἐν Δωδώνῃ οἶδα ἀκούσας, ἐπωνυμίην δὲ οὐδ' οὔνομα ἐποιεῦντο οὐδενὶ αὐτῶν· οὐ γὰρ ἀκηκόεσάν κω. θεοὺς δὲ προσουνόμασάν σφεας ἀπὸ τοῦ τοιούτου, ὅτι κόσμῳ θέντες τὰ πάντα πρήγματα καὶ πάσας νομὰς εἶχον· ἔπειτεν δέ, χρόνου πολλοῦ διεξελθόντος, ἐπύθοντο ἐκ τῆς Αἰγύπτου ἀπικόμενα τὰ οὐνόματα τῶν θεῶν τῶν ἄλλων, Διονύσου δὲ ὕστερον πολλῷ ἐπύθοντο. καὶ μετὰ χρόνον ἐχρηστηριάζοντο περὶ τῶν οὐνομάτων ἐν Δωδώνῃ. τὸ γὰρ δὴ μαντήϊον τοῦτο νενόμισται ἀρχαιότατον τῶν ἐν Ἕλλησι χρηστηρίων εἶναι, καὶ ἦν τὸν χρόνον τοῦτον μοῦνον. ἐπεὶ ὦν ἐχρηστηριάζοντο ἐν τῇ Δωδώνῃ οἱ Πελασγοί, εἰ ἀνέλωνται τὰ οὐνόματα τὰ ἀπὸ τῶν βαρβάρων ἥκοντα, ἀνεῖλε τὸ μαντήϊον χρᾶσθαι. ἀπὸ μὲν δὴ τούτου τοῦ χρόνου ἔθυον τοῖσι οὐνόμασι τῶν θεῶν χρεόμενοι· παρὰ δὲ Πελασγῶν Ἕλληνες ἐξεδέξαντο ὕστερον. ἔνθεν δὲ ἐγένετο ἕκαστος τῶν θεῶν, εἴ τε καὶ αἰεὶ ἦσαν πάντες, ὁκοῖοί τέ τινες τὰ εἴδεα, οὐκ ἠπιστέατο μέχρι οὗ πρώην τε καὶ χθές, ὡς εἰπεῖν λόγῳ. Ἡσίοδον γὰρ καὶ Ὅμηρον ἡλικίην τετρακοσίοισι ἔτεσι δοκέω μευ πρεσβυτέρους γενέσθαι καὶ οὐ πλέοσι· οὗτοι δέ εἰσι οἱ ποιήσαντες θεογονίην Ἕλλησι καὶ τοῖσι θεοῖσι τὰς ἐπωνυμίας δόντες καὶ τιμάς τε καὶ τέχνας διελόντες καὶ εἴδεα αὐτῶν σημήναντες. οἱ δὲ πρότερον ποιηταὶ λεγόμενοι τούτων τῶν ἀνδρῶν γενέσθαι ὕστερον, ἐμοί γε δοκέειν, ἐγένοντο. τούτων τὰ μὲν πρῶτα αἱ Δωδωνίδες ἰρήϊαι λέγουσι, τὰ δὲ ὕστερα τὰ ἐς Ἡσίοδόν τε καὶ Ὅμηρον ἔχοντα ἐγὼ λέγω.

2. Explain and briefly comment upon the theory of Hellenic theogony here suggested.

3. Point out the exact sense here attached to the terms *οὐνόματα, ἐπωνυμίας, τιμάς, τέχνας, εἴδεα, ἔθυον, ἐχρηστηριάζοντο, χρᾶσθαι, ἀνεῖλε, ἀνέλωνται, κόσμῳ θέντες, πάσας νομὰς εἶχον, οἱ ποιήσαντες θεογονίην.*

4. Elucidate the construction of *εἰ ἀνέλωνται*, of *μέχρι οὗ πρώην τε καὶ χθές*, and of any other phrase which may invite remark.

5. Give the Attic counterparts of such Ionic forms as are most noteworthy.

II.—Translate in either Attic or Herodotean Greek the following passage :—

The crocodile during the four most wintry months eats nothing. It is an amphibious quadruped, which lays and hatches its eggs on land, and spends the greater part of the day on the dry ground, but the whole night in the river, because the water is then warmer than the air and dew. Of all living things, with which we are acquainted, this from the smallest

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grows to be the largest: for its eggs when laid are little larger than those of a goose; and its young is at first in proportion to the egg, but growing up attains the length of seventeen cubits and even more. It has the eyes of a pig, and large projecting tusks proportionate to its body. It is the only animal which has no tongue, and which does not move the lower jaw but brings down the upper one. It has strong claws, and a hide covered with scales impenetrable upon the back.

STUDENTS OF THE THIRD AND FOURTH YEARS.

I.—Translate perspicuously the following extract from the *Theaetetus*, of PLATON, varying the phraseology, so as to express in terms of modern arithmetic the statements about numbers with their roots and factors:—

ΘΕΑΙ. ῥᾴδιον, ὦ Σώκρατες! νῦν γε οὕτω φαίνεται· ἀτὰρ κινδυνεύεις ἐρωτᾶν οἷον καὶ αὐτοῖς ἡμῖν ἔναγχος εἰσῆλθε διαλεγομένοις, ἐμοί τε καὶ τῷ σῷ ὁμωνύμῳ τούτῳ Σωκράτει. ΣΩ. τὸ ποῖον δή ὦ Θεαίτητε; ΘΕΑΙ. περὶ δυνάμεών τι ἡμῖν Θεόδωρος ὅδε ἔγραφε, τῆς τε τρίποδος πέρι καὶ πεντέποδος, ἀποφαίνων ὅτι μήκει οὐ ξύμμετροι τῇ ποδιαίᾳ, καὶ οὕτω κατὰ μίαν ἑκάστην προαιρούμενος μέχρι τῆς ἑπτακαιδεκάποδος· ἐν δὲ ταύτῃ πως ἐνέσχετο. ἡμῖν οὖν εἰσῆλθέ τι τοιοῦτον, ἐπειδὴ ἄπειροι τὸ πλῆθος αἱ δυνάμεις ἐφαίνοντο, πειραθῆναι ξυλλαβεῖν εἰς ἕν, ὅτῳ πάσας ταύτας προςαγορεύσομεν τὰς δυνάμεις. ΣΩ. ἦ καὶ εὕρετέ τι τοιοῦτον; ΘΕΑΙ. ἔμοιγε δοκοῦμεν. σκόπει δὲ καὶ σύ. ΣΩ. λέγε. ΘΕΑΙ. τὸν ἀριθμὸν πάντα δίχα διελάβομεν. τὸν μὲν δυνάμενον ἴσον ἰσάκις γίγνεσθαι τῷ τετραγώνῳ τὸ σχῆμα ἀπεικάσαντες τετράγωνόν τε καὶ ἰσόπλευρον προσείπομεν. ΣΩ. καὶ εὖ γε. ΘΕΑΙ. τὸν τοίνυν μεταξύ,—ὧν καὶ τὰ τρία καὶ τὰ πέντε καὶ πᾶς ὅς ἀδύνατος ἴσος ἰσάκις γενέσθαι, ἀλλ' ἢ πλείων ἐλαττονάκις ἢ ἐλάττων πλεονάκις γίγνεται, μείζων δὲ καὶ ἐλάττων ἀεὶ πλευρὰ αὐτὸν περιλαμβάνει,—τῷ προμήκει αὖ σχήματι ἀπεικάσαντες προμήκη ἀριθμὸν ἐκαλέσαμεν. ΣΩ. κάλλιστα. ἀλλὰ τί τὸ μετὰ τοῦτο; ΘΕΑΙ. ὅσαι μὲν γραμμαὶ τὸν ἰσόπλευρον καὶ ἐπίπεδον ἀριθμὸν τετραγωνίζουσι, μῆκος ὡρισάμεθα, ὅσαι δὲ τὸν ἑτερομήκη, δυνάμεις, ὡς μήκει μὲν οὐ ξυμμέτρους ἐκείναις, τοῖς δ' ἐπιπέδοις ἃ δύνανται. καὶ περὶ τὰ στερεὰ ἄλλο τοιοῦτον. ΣΩ. ἄριστά γ' ἀνθρώπων, ὦ παῖδες! ὥστε μοι δοκεῖ ὁ Θεόδωρος οὐκ ἔνοχος τοῖς ψευδομαρτυρίοις ἔσεσθαι. ΘΕΑΙ. καὶ μήν, ὦ Σώκρατες! ὅ γε ἐρωτᾷς περὶ ἐπιστήμης, οὐκ ἂν δυναίμην ἀποκρίνασθαι ὥσπερ περὶ τοῦ μήκους καὶ τῆς δυνάμεως. καίτοι σύ γέ μοι δοκεῖς τοιοῦτόν τι ζητεῖν. ὥστε πάλιν αὖ φαίνεται ψευδὴς ὁ Θεόδωρος. ΣΩ. τί δαί; εἴ σε πρὸς δρόμον ἐπαινῶν μηδενὶ οὕτω δρομικῷ ἔφη τῶν νέων ἐντετυχηκέναι, εἶτα διαθέων τοῦ ἀκμάζοντος καὶ ταχίστου ἡττήθης, ἧττόν τι ἂν οἴει ἀληθῆ τόνδ' ἐπαινέσαι; ΘΕΑΙ. οὐκ ἔγωγε. ΣΩ. ἀλλὰ τὴν ἐπιστήμην, ὥσπερ νῦν δὴ ἐγὼ ἔλεγον, σμικρόν τι οἴει εἶναι ἐξευρεῖν καὶ οὐ τῶν πάντῃ ἄκρων; ΘΕΑΙ. νὴ τὸν Δί' ἔγωγε καὶ μάλα γε τῶν ἀκροτάτων. ΣΩ. θάῤῥει τοίνυν περὶ σαυτῷ καὶ τὶ οἴου Θεόδωρον λέγειν, προθυμήθητι δὲ παντὶ τρόπῳ τῶν τε ἄλλων πέρι καὶ ἐπιστήμης λαβεῖν λόγον, τὶ ποτε τυγχάνει ὄν. ΘΕΑΙ. προθυμίας μὲν ἕνεκεν, ὦ Σώκρατες, φανεῖται.

(*a*) Explain succinctly why all numeral roots and factors are designated *γραμμαὶ* and *πλευραί*, rational roots *μῆκος*, surd roots *δυνάμεις*, the roots of 1, 3, 5, *ποδιαία, τρίπους, πεντέπους*; and why square numbers in general are called *ἀριθμοὶ ἐπίπεδοι*, those of one sort *ἀ. τετράγωνοι καὶ ἰσόπλευροι*, and those of another sort *ἀ. προμήκεις* and *ἀ. ἑτερομήκεις*. (*b*) Elucidate also the phrases *ἴσος ἰσάκις, πλείων ἐλαττονάκις, ἐλάττων πλεονάκις*, as applied to the products of equal or of unequal factors. And (*c*) account for the use—in antient (to a greater extent than in modern) arithmetic—of terms derived from the figures and operations of geometry.

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General Class Examination.

Translate perspicuously the *parados* of the *Agamemnon* of Aeschylus;—

ΧΟΡΟΣ.

δέκατον μὲν ἔτος τόδ' ἐπεὶ Πριάμῳ
μεγάλ' ἀντίδικοι,
διθρόνου Διόθεν καὶ δισκήπτρου
τιμῆς ὀχυρὸν ζεῦγος, Ἀτρεῖδαι
στόλον Ἀργείων χιλιοναύτην
τῆσδ' ἀπὸ χώρας
ἦραν στρατιῶτιν ἀρωγήν,
μέγαν ἐκ θυμοῦ κλάζοντες Ἄρη
τρόπον αἰγυπιῶν, οἵτ' ἐκπατίοις
ἄλγεσι παίδων ὕπατοι λεχέων
στροφοδινοῦνται
πτερύγων ἐρετμοῖσιν ἐρεσσόμενοι
δεμνιοτήρη
γόνον ὀρταλιχων ὀλέσαντες,
δαίμων δ' ἀΐων οἰωνόθροον
γόον ὀξυβόην τῶν ἐξοίκων
ὑστερόποινον
πέμπει παραβᾶσιν Ἐρινύν.
οὕτω δ' Ἀτρέως παῖδας ὁ κρείσσων
ἐπ' Ἀλεξάνδρῳ πέμπει ξένιος
Ζεὺς πολυάνορος ἀμφὶ γυναικὸς
πολλὰ παλαίσματα καὶ γυιοβαρῆ
γόνατος κονίαις ἐνερειδομένου
διακναιομένης τ' ἐν προτελείοις
κάμακος θήσων
Δαναοῖσιν Τρωσί θ' ὁμοίως.
ἔστι δ' ὅπῃ νῦν ἔστι· τελεῖται δ'
ἐς τὸ πεπρωμένον· οὔθ' ὑποκαίων
οὔθ' ὑπολείβων [ἱκέτης μακάρων]
ὀργὰς ἀτενεῖς
ἀπύρων ἱερῶν διὰ θέλξει.
ἡμεῖς δ' ἀτίται σαρκὶ παλαιᾷ
τῆς τότ' ἀρωγῆς ὑπολειφθέντες
μίμνομεν ἰσχὺν
σκήπτροις ἰσόπαιδα νέμοντες.

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ὅ τε γὰρ νεαρὸς μυελὸς στέρνων
ἐντὸς ἀναίσσων
ἰσόπρεσβυς, Ἄρης δ' οὐκ ἐν ἀώροις,
ὅ θ' ὑπέργηρως, φυλλάδος ἤδη
κατακαρφομένης, τρίποδας μὲν ὁδοὺς
στείχει, παιδὸς δ' οὐδὲν ἀρείων
ὄναρ ἡμερόφαντον ἀλαίνει.

*   *   *   *   *

πάντων δὲ θεῶν τῶν ἀστυνόμων
τῶν τ' οὐρανίων καὶ ὑποχθονίων
βωμοὶ δώροισι φλέγονται·
ἄλλη δ' ἄλλοθεν οὐρανομήκης
λαμπὰς ἀνίσχει,
φαρμασσομένη χρίματος ἁγνοῦ
μαλακαῖς ἀδόλοισι παρηγορίαις,

*   *   *   *   *

πελάνῳ μυχόθεν βασιλείων.

1. Comment briefly upon such words, phrases, ideas, and allusions as seem most noteworthy in themselves or in connexion with the context or with the plot of the drama. Various readings also may be noticed.

2. State and exemplify the laws and characteristic features of anapaestic verse.

LATIN.—*Examiner, Rev. Dr. Reichel.*

FIRST YEAR STUDENTS.—PASS.

Translate accurately the following passages into English :—

1. Nam vere dicam, Quirites, genus ipsum legis agrariae vituperare non possum. Venit enim mihi in mentem, duos clarissimos, ingeniosissimos, amantissimos plebi Romanae viros, Tib. et C. Gracchos, plebem in agris publicis constituisse, qui agri a privatis antea possidebantur. Non sum autem ego is consul, qui, ut plerique, nefas esse arbitrer Gracchos laudare: quorum consiliis, sapientia, legibus multas esse video reipublicae partes esse constitutas. Itaque, ut initio mihi designato consuli nunciabatur legem agrariam tribunos plebi designatos conscribere, cupiebam quid cogitarent cognoscere. Etenim arbitrabar, quoniam eodem anno gerendi nobis essent magistratus, esse aliquam oportere inter nos reipublicae bene administrandae societatem. Quum familiariter me in eorum sermonem insinuarem ac darem, celabar, excludebar, et quum ostenderem, si lex utilis plebi Romanae mihi videretur, auctorem me atque adjutorem futurum, tamen aspernabantur hanc liberalitatem meam: negabant me adduci posse ut illam largitionem probarem. Finem feri offerendi mei, ne forte mea sedulitas aut insidiosa aut impudens videretur. Interea non desistebant clam inter se convenire, privatos quosdam adhibere, ad suos coetus occultos noctem adjungere et solitudinem. Quibus in rebus quanto in metu fuerimus ex vestra sollicitudine, in qua illis temporibus fuistis, facile conjectura adsequi poteritis. Ineunt tandem magistratus tribuni plebis: contio tandem exspectata P. Rulli, quod et princeps erat agrariae legis et truculentius se gerebat quam caeteri. Jam designatus, alio vultu, alio vocis sono,

alio incessu esse meditabatur, vestitu obsoletiore, corpore inculto et horrido, capillatior quam antea barbaque majore : ut oculis et aspectu denunciare omnibus vim tribuniciam et minitari reipublicae videretur. Legem hominis contionemque exspectabam. Lex initio nulla proponitur : contionem in primis advocari jubet : summa cum exspectatione concurritur. Explicat orationem sane longam, et verbis valde bonis. Unum erat quod mihi vitiosum videbatur, quod tanta ex frequentia inveniri nemo potuit, qui intelligere posset quid diceret.—CICERO—*De Lege Agraria*. *Appendix, No. 8.* — General Class Examination.

2. Cum Saguntinis bellum nondum erat, ceterum jam belli causa certamina cum finitimis serebantur maxime Turdetanis. quibus cum adesset idem qui litis erat sator, nec certamen juris sed vim quaeri appareret, legati a Saguntinis Romam missi auxilium ad bellum jam haud dubie imminens orantes. consules tunc Romae erant P. Cornelius Scipio et Ti. Sempronius Longus, qui cum legatis in senatum introductis de republica rettulissent, placuissetque mitti legatos in Hispaniam ad res sociorum inspiciendas, quibus si videretur digna causa et Hannibali denuntiarent ut ab Saguntinis, sociis populi Romani, abstineret, et Carthaginem in Africam traicerent ac sociorum populi Romani querimonias deferrent,—hac legatione decreta necdum missa, omnium spe celerius Saguntum oppugnari allatum est.—LIVY, Book 21.

QUESTIONS.

1. Define the nature of a *lex agraria*.
2. In what sense is the word *possideo* used in the first of the above extracts?
3. Give the dates of the beginning and ending of the Second Punic War.

FIRST YEAR.—HONORS.

Translate the following passages :—

I.—Galli occursant in ripam cum variis ululatibus cantuque moris sui quatientes scuta super capita vibrantesque dexteris tela, quanquam et ex adverso terrebat tanta vis navium cum ingenti sono fluminis et clamore vario nautarum militumque, et qui nitebantur perrumpere impetum fluminis, et qui ex altera ripa traicientes suos hortabantur. jam satis paventes adverso tumultu terribilior a tergo adortus clamor castris ab Hannone captis. mox et ipse aderat, ancepsque terror circumstabat et e navibus tanta vi armatorum in terram evadente et ab tergo improvisa premente acie. Galli postquam utroque vim facere conati pellebantur, qua patere maxime visum iter, perrumpunt, trepidique in vicos passim suos diffugiunt.—LIVY, Book 21.

II.—Sint igitur Xviri neque veris comitiis, hoc est, populi suffragiis, neque illis ad speciem atque ad usurpationem vetustatis per XXX lictores auspiciorum causa adumbratis constituti. Videte nunc eos, qui a vobis nihil potestatis acceperint, quanto majoribus ornamentis afficiat, quam omnis nos affecti sumus, quibus vos amplissimas potestates dedistis. Jubet auspicii coloniarum deducendarum causa decem viros habere pullarios. EODEM JURE, inquit, QUO HABUERUNT III VIRI LEGE SEMPRONIA. Audes, etiam, Rulle, mentionem facere legis Semproniae? Nec te ea lex ipsa commonet III viros illos XXXV tribuum suffragio creatos esse? Et, quum tu a Ti. Gracchi aequitate ac pudore longissime remotus sis, id, quod dissimillima ratione factum sit, eodem jure putas esse oportere? Dat praeterea potestatem verbo praetoriam, re vera regiam : definit in quinquennium, facit sempiternam : tantis enim confirmat opibus et copiis, ut invitis eripi nullo modo possit. Deinde ornat apparitoribus, scribis,

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librariis, praeconibus, architectis: praeterea mulis, tabernaculis, centunculis, supellectili: sumptum haurit ex aerario, suppeditat a sociis: finitores ex equestri loco ducentos in annos singulos stipatores corporis constituit, eosdem ministros et satellites potestatis.—CICERO—*De Lege Agraria*, II.

(On Cicero.)

α. What are the *vera comitia*, and what are the *adumbrata comitia* Cicero speaks of?

β. How were the decemvirs to be appointed by Rullus' law?

γ. What is the lex Sempronia spoken of? Date?

δ. Specify the provisions of Rullus' law, in so far as they are mentioned by Cicero in this speech against it.

ε. What is the general nature of an agrarian law, and by whom was the first on record proposed?

III. Idibus in magni castus Jovis aede sacerdos
    Semimaris flammis viscera libat ovis:
Redditaque immunis populo provincia nostro,
    Et tuus Augusto nomine dictus avus.
Perlege dispositas generosa per atria ceras:
    Contigerunt nulli nomina tanta viro.
Africa victorem de se vocat. alter Isauras
    Aut Cretum domitas testificatur opes:
Hunc Numidae faciunt illum Messana superbum:
    Ille Numantina traxit ab urbe notam.
Et mortem et nomen Druso Germania fecit.
    Me miserum, virtus quam brevis illa fuit.
Si petat a victis, tot sumat nomina Caesar,
    Quot numero gentes maximus orbis habet.
Ex uno quidam celebres aut torquis adempti,
    Aut corvi titulos auxiliaris habent.
Magne, tuum nomen rerum est mensura tuarum:
    Sed, qui te vicit, nomine major erit.
Nec gradus est ultra Fabios cognominis ullus:
    Illa domus meritis Maxima dicta suis.
Sed tamen humanis celebrantur honoribus omnes:
    Hic socium summo cum Jove nomen habet.
Sancta vocant augusta patres. augusta vocantur
    Templa sacerdotum rite dicata manu.
Hujus et augurium dependet origine verbi,
    Et quodcunque sua Juppiter auget ope.
Augeat imperium nostri ducis, augeat annos,
    Protegat et vestras querna corona fores.
Auspicibusque deis tanti cognominis haeres
    Omine suscipiat quo pater orbis onus.

Fasti.

1. The Ides of what month are spoken of?
2. What event is celebrated by Ovid in this passage? Its date?
3. Who is the person addressed in this passage?
4. Who are the persons alluded to by the reference to the *torques ademptus* and the *corvus auxiliaris*; and who is addressed by the name of *Magnus*?
5. What is the import of the *corona querna*?
6. What is the true etymology of the word *augurium*?
7. 13. E. EID. N.P. 14. F. Dies vitios: ex S. C. Explain this signature.

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General Class Examination.

1. Postridie senatus frequens et omnes consulares nihil Pompeio postulanti negarunt. Ille legatos quindecim quum postularet, me principem nominavit et ad omnia me alterum se fore dixit. Legem consules conscripserunt, qua Pompeio per quinquennium omnis potestas rei frumentariae toto orbe terrarum daretur: alteram Messius, qui omnis pecuniae dat potestatem et adiungit classem et exercitum et maius imperium in provinciis quam sit eorum qui eas obtineant. Illa nostra lex consularis nunc modesta videtur, haec Messii non ferenda. Pompeius illam se velle dicit, familiares hanc. Consulares duce Favonio fremunt, nos tacemus et eo magis, quod de domo nostra nihil adhuc pontifices responderunt. Qui si sustulerint religionem, aream praeclaram habebimus, superficiem consules ex Senatus consulto aestimabunt: sin aliter, demolientur, suo nomine locabunt, rem totam aestimabunt.

Cicero—*Ad Atticum.*

Translate and explain.

2. Si. Cur haec, tu ubi rescivisti ilico,
Celata me sunt? cur non *rescivi?* Ps. Eloquar:
Quia nolebam ex me morem progigni malum,
Erum ut suum servos criminaret apud erum.
Si. Iuberem tu hunc praecipitem in *pristrinum* trahi?
Ca. Numquid, Simo, peccatumst? Si. Immo maximo.
Ps. Desiste: recte ego meam rem sapio, Callipho.
Peccatane ea sunt? animum adverte nunc iam,
Quapropter gnati amore te expertem habuerim:
Quia mihi sciebam pristrinum *in mundo* fore.
Si. Non a me scibas pristrinum in mundo fore,
Quom ea *mussitabas?* Ps. Sciebam. Si. Quin dictumst mihi?
Ps. Quia illut malum aderat, istuc aberat longius:
Illut erat praesens: huic erant *dieculae.*
Si. Quid nunc agetis? nam hinc quidem a me non potest
Argentum auferri, qui *praesertim* senserim.
Ne quisquam credat *nummum,* iam edicam omnibus.
Ps. Nunquam edepol quoiquam supplicabo, dum quidem
Tu vivos vivos: tu mi hercle argentum dabis:
Aps te equidem sumam. Si. Tu a me sumes Ps. Strenue.
Si. *Exfodito* mi hercle oculum si dedero. Ps. Dabis.
Iam dico ut a me caveas. Si. Certe edepol scio:
Si apstuleris, mirum et magnum facinus feceris.

Plautus.

Translate, and parse and explain the words printed in italics.

SECOND YEAR STUDENTS.—PASS.

Translate accurately the following passages:—

1. Mi. Ausculta paucis, nisi molestumst, Demea.
Principio, si id te mordet, sumptum filii
Quem faciunt, quaeso hoc facito tecum cogites:
Tu illos duo olim pro re tollebas tua
Quod satis putabas tua bona ambobus fore,
Et me tum uxorem credidisti scilicet
Ducturum: eandem illam rationem antiquam obtine:
Conserva, quaere, parce, fac quam plurimum

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General Class Examination.

Illis relinquas; gloriam tu istam obtine.
Mea, quae praeter spem evenere, utantur sine.
De summa nil decedet: quod hinc accesserit,
Id de lucro putato esse omne. haec si voles
In animo vere cogitare, Demea,
Et mi et tibi et illis dempseris molestiam.
De. Mitto rem: consuetudinem ipsorum. Mi. Mane:
Scio; istuc ibam. Multa in homine, Demea,
Signa insunt, ex quibus conjectura facile fit
Duo quum idem faciunt, saepe ut possis dicere,
"Hoc licet impune facere huic, illi non licet,"
Non quo dissimilis res sit, sed quo is qui facit.
Quae ego inesse in illis video, ut confidam fore
Ita ut volumus. video eos sapere, intelligere, in loco
Vereri, inter se amare: scires liberum
Ingenium atque animum. quo vis illos tu dic
Reducas. at enim metuas, ne ab re sint tamen
Omissiores paullo. o noster Demea,
Ad omnia alia aetate sapimus rectius:
Solum unum hoc vitium senectus fert hominibus,
Attentiores sumus ad rem omnes, quam sat est:
Quod illos sat aetas acuet.

Adelphi.

2. Inter quae senatu ad infimas obtestationes procumbente, dixit forte Tiberius se, ut non toti reipublicae parem, ita quaecunque pars sibi mandaretur, ejus tutelam suscepturum. tum Asinius Gallus, Interrogo, inquit Cæsar, quam partem reipublicae mandari tibi velis. Perculsus improvisa interrogatione paulum reticuit: dein collecto animo respondit nequaquam decorum pudori suo legere aliquid aut evitare ex eo cui in universum excusari mallet. rursum Gallus, etenim vultu offensionem conjectaverat, non idcirco interrogatum ait, ut divideret quae separari nequirent, sed et sua confessione argueretur unum esse reipublicae corpus atque unius animo regendum. addidit laudem de Augusto Tiberiumque ipsum victoriarum suarum quaeque in toga per tot annos egregie fecisset admonuit. Nec ideo iram ejus lenivit, pridem invisus, tanquam ducta in matrimonium Vipsania M. Agrippae filia, quae quondam Tiberii uxor fuerat, plus quam civilia agitaret, Pollionisque Asinii patris ferociam retineret.—TACITUS.

Add brief notes in explanation and illustration, with special reference to points of grammar.

HONORS.

1. Ipsa dies alios alio dedit ordine Luna
Felices operum: quintam fuge: pallidus Orcus
Eumenidesque satae: tum partu Terra nefando
Coeumque Iapetumque creat, saevumque Typhoea,
Et conjuratos coelum rescindere fratres.
Ter sunt conati inponere Pelio Ossam
Scilicet, atque Ossae frondosum involvere Olympum:
Ter pater exstructos disjecit fulmine montes.
Septuma post decumam felix et ponere vitem
Et prensos domitare boves et licia telae
Addere: nona fugae melior, contraria furtis.
Multa adeo gelida melius se nocte dedere,
Aut quum sole novo terras irrorat Eoüs.
Nocte leves melius stipulae, nocte arida prata

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General Class Examination.

Tondentur: noctes lentus non deficit humor.
Et quidam seros hiberni ad luminis ignes
Pervigilat, ferroque faces inspicat acuto:
Interea longum cantu solata laborem
Arguto conjux percurrit pectine telas:
Aut dulcis musti Vulcano decoquit humorem,
Et foliis undam trepidi despumat aheni.
At rubicunda Ceres medio succiditur aestu,
Et medio tostas aestu terit area fruges:
Nudus ara, sere nudus: hiems ignava colono.

Georgics.

2. Quamobrem hoc statuere, judices, debetis, Q. Caecilium, de quo nulla unquam opinio fuerit, nullaque in hoc ipso judicio futura sit, qui neque ut ante collectam famam conservet, neque uti reliqui temporis spem confirmet laborat, non nimis hanc causam severe, non nimis accurate, non nimis diligenter acturum. Habet enim nihil quod in offensione deperdat: ut turpissime flagitiosissimeque discedat, nihil de suis veteribus ornamentis requiret. A nobis multos obsides habet populus Romanus, quos ut incolumes conservare, tueri, confirmare ac recuperare possimus, omni ratione erit dimicandum. Habet honorem quem petimus: habet spem quam propositam nobis habemus: habet existimationem, multo sudore labore vigiliisque collectam: ut, si in hac causa nostrum officium ac diligentiam probaverimus, haec quae dixi retinere per populum Romanum incolumia ac salva possimus: si tantulum offensum titubatumque sit, ut ea quae singillatim ac diu collecta sunt, uno tempore universa perdamus. Quapropter, judices, vestrum est deligere, quem existimatis facillime posse magnitudinem causae ac judicii sustinere fide, diligentia, consilio, auctoritate. Vos si mihi Q. Caecilium anteposueritis, ego me dignitate superatum non arbitrabor: populus Romanus ne tam honestam, tam severam diligentemque accusationem neque vobis placuisse neque ordini vestro placere, arbitretur, providete.—*Divinatio.*

3. Iidem consules, si appellandi sunt consules quos nemo est qui non modo ex memoria sed etiam ex fastis evellendos esse non putet, pacto jam foedere provinciarum, producti in circo Flaminio in concionem ab illa furia ac peste patriae, maximo cum gemitu vestro, illa omnia quae tum contra me contraque rempublicam dixerat voce ac sententia sua comprobaverunt. Iisdem consulibus sedentibus atque inspectantibus lata lex est ne auspicia valerent, ne quis obnuntiaret, ne quis legi intecederet, ut omnibus fastis diebus legem ferre liceret, ut lex Aelia lex Fufia ne valeret. Qua una rogatione, quis est qui non intelligat universam rempublicam esse deletam? Iisdem consulibus inspectantibus, servorum delectus habebatur pro tribunali Aurelio nomine collegiorum, quum vicatim homines conscriberentur, decuriarentur, ad vim ad manus ad caedem ad direptionem incitarentur. Iisdem consulibus arma in templum Castoris palam comportabantur, gradus ejusdem templi tollebantur, armati homines forum et conciones tenebant, caedes lapidationesque fiebant: nullus erat senatus, nihil reliqui magistratus: unus omnem omnium potestatem armis et latrociniis possidebat, non aliqua vi sua: sed quum duo consules a republica provinciarum foedere retraxisset, insultabat, dominabatur, aliis pollicebatur, terrore ac metu multos, plures etiam spe et promissis tenebat. —Pro Sestio.

Translate, and add brief notes in explanation and illustration of these passages; remarking on metrical peculiarities in the first of them.

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General Class Examination.

THIRD YEAR STUDENTS.—HONOR CLASS.

Translate and explain fully the following passages, and the phrases marked in italics:—

Quod vero in extrema oratione quasi tuo iure sumpsisti oratorem in omnis sermonis disputatione copiosissime versari posse, id, nisi hic in tuo regno essemus, non tulissem, multisque *praeissem*, qui aut *interdicto tecum contenderent aut te ex iure manum consertum vocarent* quod in alienas possessiones tam temere irruisses.

Mihi qui sicut *unus paterfamilias* his de rebus loquor.

Ut concitato navigio cum remiges *inhibuerunt* retinet tamen ipsa navis motum.

Jactare se in caussis *centumviralibus*, in quibus *usucapionum tutelarem gentilitatum agnationum alluvionum circumluvionum nexorum mancipiorum parietum luminum stillicidiorum testamentorum* jura versantur.

Difference between *nexum* and *mancipium ?*

Nam si quisque, ut in aliqua arte et facultate excellens aliam quoque artem sibi assumpserit, ita perficiet ut, quod praeterea sciat, id sit, in quo excellet, pars quaedam esse videatur; licet ista ratione dicamus *pila bene et duodecim scriptis ludere* proprium esse iuris civilis, quoniam utrumque eorum P. Mucius optime fecerit: eademque ratione dicantur et quos φυσικοὺς Graeci nominant iidem poetae, quoniam Empedocles physicus egregium poema fecerit.

Tanquam *in procinctu testamentum faceret sine libra et tabulis.*

Nam neque illud est mirandum, qui quibus verbis coemptio fiat nesciat, eundem eius mulieris quae coemtionem fecerit, caussam posse defendere: nec, si parvi navigii et magni eadem est in gubernando scientia, idcirco qui quibus verbis *erctum cieri* oporteat nesciat, idem *erciscundae familiae causam* agere non possit.

Et, credo, in illa militis caussa, si tu aut heredem aut militem defendisses, ad Hostilianas te actiones, non ad tuam vim et oratoriam facultatem contulisses. Tu vero, vel si testamentum defenderes, sic ageres, ut omne omnium testamentorum jus in eo judicio positum videretur: vel si caussam ageres militis, patrem eius, ut soles, dicendo a mortuis excitasses: statuisses ante oculos: complexus esset filium flensque eum centumviris commendasset: lapides me Hercule omnes flere ac lamentari coegisset, ut totum illud *uti lingua nuncupassit* non in duodecim tabulis, sed magistri carmine scriptum videretur.

In verbis etiam illa sunt, quae aut ex *immutata oratione* ducuntur aut ex unius verbi *translatione* aut ex *inversione* verborum. Ex immutatione, ut olim Rusca cum legem ferret annalem, dissuasor M. Servilius, Dic mihi, inquit M. Pinari, num si contra te dixero, mihi malo dicturus es, ut ceteris fecisti? – Ut sementem feceris, ita metes inquit. Ex translatione autem, ut, cum Scipio ille maior Corinthiis statuam pollicentibus eo loco, ubi aliorum essent imperatorum, turmulis dixit displicere. Invertuntur autem verba, ut Crassus apud M. Perpernam iudicem pro Aculeone cum diceret, aderat contra Aculeonem Gratidiano L. Aelius Lamia, deformis, ut nostis: qui cum interpellaret odiose, Audiamus, inquit, pulchellum puerum, Crassus. Cum esset arrisum, non potui mihi, inquit Lamia, formam ipse fingere: ingenium potui. Tum hic, Audiamus, inquit, disertum. Multo etiam arrisum est vehementius.

Placet mihi illud etiam Scipionis illius qui Ti. Gracchum perculit. Cum ei M. Flaccus multis probris objectis P. Mucium iudicem tulisset, *eiero,* inquit: iniquus est. Cum esset admurmuratum, Ah, inquit, P. C., non

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General Class Examination.

ego mihi illum iniquum eiero, verum omnibus. Ah hoc vero Crasso nihil facetius.

English to be turned into Latin :—

Cicero recommended Pompey to the Romans for their general upon three accounts, as he was a man of courage, conduct, and good fortune. It was, perhaps, for the reasons above mentioned, namely, that a series of good fortune supposes a prudent management in the person whom it befalls, that not only Sulla the dictator, but several Roman emperors, as is still to be seen upon their medals, among their other titles, gave themselves that of Felix or fortunate. The heathens, indeed, seem to have valued a man for his good fortune more than for any other quality, which I think is very natural for those who have not a strong belief of another world. For how can I conceive a man crowned with any distinguished blessings, that has not some extraordinary fund of merit or perfection in him which is open to the Supreme eye, though perhaps it is not discovered by my observation ? What is the reason Homer's and Virgil's heroes do not form a resolution or strike a blow without the conduct and direction of some deity ? Doubtless, because the poets esteemed it the greatest honour to be favoured by the gods, and thought the best way of praising a man was, to recount those favours which naturally implied an extraordinary merit in the person on whom they descended.—*Spectator*, No. 293.

Translate, and briefly comment on the following passages when necessary :—

1. Quod super est, umore novo mare flumina fontes
 semper abundare at latices manare perennis
 nil opus est verbis : magnus decursus aquarum
 undique declarat. sed primum quicquid aquaï
 tollitur, in summaque fit ut nil umor abundet.
2. Nec nimio solis maior rota nec minor ardor
 esse potest, nostris quam sensibus esse videtur.
 nam quibis e spatiis cunque ignes lumina possunt
 adicere et calidum membris adflare vaporem,
 nil ea in his intervallis de corpore libant
 flammarum, nil ad speciem est contractior ignis.
 proinde, calor quoniam solis lumenque profusum
 perveniunt nostros ad sensus et loca mulcent,
 forma quoque hinc solis debet filumque videri,
 nil adeo ut possis plus aut minus addere, vere.
 lunaque sive notho fertur loca lumine lustrans,
 sive suam proprio iactat de corpore lucem,
 quidquid id est, nilo fertur maiore figura,
 quam, nostris oculis qua cernimus, esse videtur.
 nam prius omnia, quae longe semota tuemur
 aëra per multum, specie confusa videntur
 quam minui filum. qua propter luna necesse est,
 quandoquidem claram speciem certamque figuram
 praebet, ut est oris extremis cunque notata
 quantaque quanta est hinc nobis videatur in alto.
3. Fulmina gignier e crassis alteque putandum est
 nubibus exstructis : nam coelo nulla sereno
 nec leviter densis mittuntur nubibus unquam.
 nam dubio procul hoc fieri manifesta docet res :
 quod tum per totum concresunt aëra nubes,

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undique uti tenebras omnis Acherunta reamur
liquisse et magnas coeli complesse cavernas.
usque adeo tetra nimborum nocte coorta
impendent atrae formidinis ora superne,
cum commoliri tempestas fulmina coeptat.
praeterea persaepe niger quoque per mare nimbus,
ut picis e coelo demissum flumen, in undas
sic cadit effertus tenebris procul et trahit atram
fulminibus gravidam tempestatem atque procellis,
ignibus ac ventis cum primis ipse repletus,
in terra quoque ut horrescant ac tecta requirant.
sic igitur supera nostrum caput esse putandumst
tempestatem altam. neque enim caligine tanta
obruerent terras, nisi inaedificata superne
multa forent multis exempto nubila sole:
nec tanto possent venientes opprimere imbri,
flumina abundare ut facerent camposque natare,
si non exstructis foret alte nubibus aether.
hic igitur ventis atque ignibus omnia plena
sunt: ideo passim fremitus et fulgura fiunt.
quippe etenim supra docui permulta vaporis
semina habere cavas nubes, et multa necessest
concipere ex solis radiis ardoreque eorum.
hoc ubi ventus eas idem qui cogit in unum
forte locum quemvis, expressit multa vaporis
semina seque simul cum eo commiscuit igni,
insinuatus ibi vertex versatur in arto
et calidis acuit fulmen fornacibus intus:
nam duplici ratione accenditur, ipse sua cum
mobilitate calescit, et e contagibus ignis.
inde ubi percaluit gravida, aut vis ignis et acer
impetus incessit, maturum tum quasi fulmen
perscindit subito nubem, ferturque coruscis
omnia luminibus lustrans loca percitus ardor.
4. Saepius hanc ob rem minitatur terra ruinas
quam facit: inclinatur enim retroque recellit,
et recipit prolapsa suas in pondera sedes.
hac igitur ratione vacillant omnia tecta
summa magis mediis, media imis, ima perhilum.
5. Intellegit ibi vitium vas efficere ipsum.

LUCRETIUS.

QUESTIONS.

1. Mention peculiarities in the style of Lucretius, adducing examples in respect, α, of diction, β, of versification.

2. Give an outline of the contents of the two last books.

3. Mention some words which Lachmann has introduced by probable emendation, not found in dictionaries.

4. With what limit does Lucretius use the contracted perfect, e.g., *superat* for *superavit*?

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General Class Examination.

HISTORY AND ENGLISH LITERATURE.—*Examiner, Professor Craik.*

HISTORY.

1. Explain and illustrate *any one* of the special recommendations of the study of history as a mental gymnastic.

2. Explain with precision the distinction and opposition between history and such a science as statistics.

3. Give a true history of the doctrine of the cycle of forms of government, and point out the misstatements that have been made respecting it.

4. Give an account of the succession to the Empire down to the extinction of the Hohenstauffen dynasty.

5. Explain who the Emperor Charles V. was by birth, how he acquired his various dignities and dominions, and by whom he was succeeded in each of them.

6. Explain, in so many successive paragraphs, the claims to the throne of the Two Sicilies of the later Hohenstauffen emperors, of the kings of France, and of the kings of Aragon and of Spain.

7. Sketch the history of Fredegonda and Brunhilda.

8. Give an account of the succession to the throne of France from the death of Henry III. to the breaking out of the Revolution.

9. Sketch the history of the government in France throughout the last sixty years.

10. Enumerate and explain the several senses, geographical, historical, and political, in which the name *Burgundy* has been used.

11. Explain, in so many successive paragraphs, the following geographical, historical, and political names :—Lombardy, the Exarchate, the Pentapolis, the Romagna, the Marca d'Ancona, Apulia (with its modern form), Calabria, the Abruzzi, the Two Sicilies.

12. Recount succinctly the revolutions of Italy from the abolition to the restoration of the Western empire.

MODERN LANGUAGES.—*Examiner Dr. Frädersdorff.*

FIRST YEAR STUDENTS.

FRENCH.

Translate into English :—

Gustave Vasa, jeune homme descendu des anciens rois du pays, sortit du fond des forêts de la Dalécarlie, où il était caché, et vint délivrer la Suède. C'était une de ces grandes âmes que la nature forme si rarement, avec toutes les qualités nécessaires pour commander aux hommes. Sa taille avantageuse et son grand air lui faisaient des partisans dès qu'il se montrait ; son éloquence, à qui sa bonne mine donnait de la force, était d'autant plus persuasive qu'elle etait sans art ; son génie formait de ces enterprises que le vulgaire croit téméraires, et qui ne sont que hardies aux yeux des grands hommes ; son courage infatigable les faisait réussir. Il était intrépide avec prudence, d'un naturel doux dans un siècle féroce, vertueux enfin, à ce que l'on dit, autant qu'un chef de parti peut l'être.

Gustave Vasa avait été otage de Christiern, et retenu prisonnier contre le droit des gens. Echappé de sa prison, il avait erré, déguisé en paysan, dans les montagnes et dans les bois de la Dalécarlie : là il s'était vu réduit à la nécessité de travailler aux mines de cuivre, pour vivre et pour se cacher. Enseveli dans ces souterrains, il osa songer à détrôner le tyran. Il se découvrit aux paysans ; il leur parut un homme d'une nature supé-

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rieure, pour qui les hommes ordinaires croient sentir une soumission naturelle : il fit en peu de temps de ces sauvages des soldats aguerris. Il attaqua Christiern et l'archevêque, les vainquit souvent, les chassa tous deux de la Suède, et fut élu avec justice par les états roi du pays dont il était le libérateur.

Le printemps est la saison de la douce chaleur ; c'est alors que les arbres se couvrent de feuilles, que les jardins sont jolis à voir, et que les oiseaux recommencent leurs joyeuses chansons. Le laboureur, retenu dans sa chaumière pendant la mauvaise saison, va reprendre aux champs ses travaux utiles.

L'été est la saison des grandes chaleurs. Le soleil reste longtemps avec nous il se lève de bonne heure et se couche très tard. Les fruits mûrissent, et le blé, grand et jaune, est coupé par les moissonneurs. C'est alors que les pauvres glaneuses vont ramasser les épis dispersés dans les champs.

Pendant l'automne la chaleur diminue ; les fruits mûris par l'été sont recueillis et employés ; c'est en effet le temps de la vendange. Mais hélas ! les feuilles jaunissent, les arbres se dépouillent peu à peu, tout annonce le triste hiver.

L'hiver est le temps du froid, de la pluie, des brouillards. La terre est couverte de neige ; les petits ruisseaux sont glacés. La campagne est triste, plus de feuillage aux arbres et plus de nids dans les branches !

Restait cette redoutable infanterie de l'armée d'Espagne, dont les gros bataillons serrés, semblables à autant de tours, mais à des tours qui sauraient réparer leurs brèches, demeuraient inébranlables au milieu de tout le reste en déroute, et lançaient des feux de toutes parts. Trois fois le jeune vainqueur s'efforça de rompre ces intrépides combattants ; trois fois il fut repoussé par le valeureux comte de Fuentes qu'on voyait porté dans sa chaise, et malgré ses infirmités, montrer qu'une âme guerrière est maîtresse du corps qu'elle anime ; mais enfin il faut céder. C'est en vain qu'à travers des bois, avec sa cavalerie toute fraîche, Beck précipite sa marche pour tomber sur nos soldats épuisés : le prince l'a prévenu, les bataillons enfoncés demandent quartier ; mais la victoire va devenir plus terrible pour le duc d'Enghien que le combat.

Pendant qu'avec un air assuré il s'avance pour recevoir la parole de ces braves gens, ceux-ci, toujours en garde, craignent la surprise de quelque nouvelle attaque ; leur effroyable décharge met les nôtres en furie. On ne voit plus que carnage ; le sang enivre le soldat, jusqu'à ce que le grand prince, qui ne put voir égorger ces lions comme de timides brebis, calma les courages émus, et joignit au plaisir de vaincre celui de pardonner. Quel fut alors l'étonnement de ces vieilles troupes et de leurs braves officiers, lorsqu'ils virent qu'il n'y avait plus de salut pour eux que dans les bras du vainqueur ! De quels yeux regardèrent-ils le jeune prince, dont la victoire avait relevé la haute contenance, à qui la clémence ajoutait de nouvelles grâces.

Translate into French or German:—

Francis died at Rambouillet, on the last day of March, in the fifty-third year of his age, and the thirty-third of his reign. During twenty-eight years of that time, an avowed rivalship subsisted between him and the emperor, which involved not only their own dominions, but the greater part of Europe, in wars, which were prosecuted with more violent animosity, and drawn out to a greater length, than had been known in any

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General Class Examination.

former period. Many circumstances contributed to this. Their animosity was founded in opposition of interest, heightened by personal emulation, and exasperated not only by mutual injuries, but by reciprocal insults. At the same time, whatever advantage one seemed to possess towards gaining the ascendant, was wonderfully balanced by some favourable circumstance peculiar to the other. The emperor's dominions were of greater extent, the French king's lay more compact; Francis governed his kingdom with absolute power; that of Charles was limited, but he supplied the want of authority by address: the troops of the former were more impetuous and enterprising; those of the latter better disciplined and more patient of fatigue. The talents and abilities of the two monarchs were as different as the advantages which they possessed, and contributed no less to prolong the contest between them.

Grammatical Questions.

FRENCH.

1. Give some nouns actually of *fem.* gender, that were at an earlier period *masc.*; in like manner, some nouns *masc.*, formerly of *fem.* gender.

2. Distinguish between the respective meanings conveyed by the following nouns, according to *gender* (*masc.* or *fem.*), viz.: *aune* (*aulne*, from "*alnus*"), *aide, capre, espace, guide, mémoire, rélâche, manœuvre, souris, tour.*

3. Make out a list of *nouns subst.* (denoting *male* individuals, occupations, or professions,) which retain the same termination in *fem.* Correct, if required, in the following sentence, the *masc.* termination preceded by the *indef. art.* (*fem.*), and translate:—"Excusez ma tendresse pour *une enfant*, dont je n'ai jamais eu le moindre sujet de plainte."

4. Add "*masc.*" and *fem.*" respectively to the following nouns: *artifice, absinthe, abrégé, alcove, carrosse, courroie, equinoxe, ébène.*

5. Distinguish between the following *homonymic* expressions:—

boīte,	boĭte.
bōnd,	bŏn.
clāir,	clĕrc.
craīnt,	crĭn.
faīte,	faĭte.

6. Give the *pres.* and *imperf. indic.* and *subj.* of the verbs—*border, choisir, vendre, recevoir.*

7. Write out the 2*nd condit* of *s'en aller* (*interrog. negat.*); in like manner of *s'en repentir*, and *transl.*—1. Would he not have gone away, if you had not prevented him? 2. Would you not have repented *of it?*

8. Write out the *impf. subj.* of *sortir* and *venir*; *entendre* and *eteindre*; *connaître* and *naître*; *vendre* and *prendre.*

GERMAN.

1. Write out the 2nd and 3rd pers. sing. (*pres.* and *imperf. indic.*) of ſlechten, ſchlagen, laſſen, leſen.

2. Give the sing. of *imperf. subj.* of the verbs befehlen, ſterben, helfen.

3. Which are the prepositions that govern (1) the *dative*, (2) the *accus.*, (3) the dative *and* the accus.; and upon what circumstance depends the government of the latter cases (*dat.* and *acc.*) respectively?

4. Give some verbs requiring the *accus.* of the *person* and the *dat.* of the *thing.*

5. By what *idiomatical locution* may you render in German an *English* phrase in which the verb occurs in the *passive* voice?

Translate: Der verlorne Schlüſſel hat ſich gefunden. Form some sentences *analogous* in construction.

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General Class Examination.

6. What is the proper mood required for *oblique narration* in German? Translate: (1) Er ſagt ſein Vater ſei beſchäftigt und könne nicht kommen.—(2) Er ſagte: „Mein Vater iſt beſchäftigt und kann nicht kommen."

7. Translate and remark on the following idiomatical locutions:—

(1) Er ſoll in Rom angekommen ſein.
(2) Sie will mich in Paris geſehen haben.
(3) Du dürfteſt dich wohl getäuſcht haben.

8. Explain the rules relative to the grammatical structure of sentences with separable verbs. Illustrate by examples, and give a list of *inseparable particles.*

SECOND YEAR STUDENTS.

Translate into English:—

Charlemagne songea à tenir le pouvoir de la noblesse dans ses limites, et à empêcher l'oppression du clergé et des hommes libres. Il mit un tel tempérament dans les ordres de l'état, qu'ils furent contrebalancés, et qu'il resta le maître. Tout fut uni par la force de son génie Il mena continuellement la noblesse d'expédition en expédition; il ne lui laissa pas le temps de former des desseins, et l'occupa tout entière à suivre les siens. L'empire se maintint par la grandeur du chef: le prince était grand, l'homme l'était davantage. Les rois, ses enfants, furent ses premiers sujets, les instruments de son pouvoir, et les modèles de l'obéissance. Il fit d'admirables règlements; il fit plus, il les fit exécuter. Son génie se répandit sur toutes les parties de l'empire. On voit, dans les lois de ce prince, un esprit de prévoyance qui comprend tout, et une certaine force qui entraine tout. Les prétextes pour éluder les devoirs sont ôtés, les négligences corrigées, les abus réformés ou prévenus. Il savait punir; il savait encore mieux pardonner. Vaste dans ses desseins, simple dans l'exécution, personne n'eut à un plus haut degré l'art de faire les plus grandes choses avec facilité, les difficiles avec promptitude.

Il parcourait sans cesse son vaste empire, portant la main partout où il allait tomber. Ses affaires renaissaient de toutes parts, il les finissait de toutes parts. Jamais prince ne sut mieux braver les dangers, jamais prince ne les sut mieux éviter. Il se joua de tous les périls, et particulièrement de ceux qu'éprouvent presque toujours les grands conquérants, je veux dire les conspirations. Ce prince prodigieux était extrêmement modéré; son caractère était doux, ses manières étaient simples; il aimait à vivre avec les gens de sa cour. Il mit une règle admirable dans sa dépense: il fit valoir ses domaines avec sagesse, avec attention, avec économie; un père de famille pourrait apprendre dans ses lois à gouverner sa maison. On voit dans ses capitulaires la source pure et sacrée d'où il tira ses richesses. Je ne dirai plus qu'un mot: il ordonnait qu'on vendît les œufs des basses-cours de ses domaines et les herbes inutiles de ses jardins, et il avait distribué à ses peuples toutes les richesses des Lombards et les immenses trésors de ces Huns qui avaient dépouillé l'univers.—MONTESQUIEU, *Esprit des Lois.*

Que tu discernes mal le cœur d'avec la mine!
Dans l'ame il hait Félix et dédaigne Pauline;
Et, s'il l'aima jadis, il estime aujourd'hui
Les restes d'un rival trop indignes de lui.
Il parle en sa faveur, il me prie, il menace,
Et me perdra, dit-il, si je ne lui fais grace;
Tranchant du généreux, il croit m'épouvanter;

L'artifice est trop lourd pour ne pas l'éventer.
Je sais des gens de cour quelle est la politique,
J'en connois mieux que lui la plus fine pratique.
C'est en vain qu'il tempête et feint d'être en fureur :
Je vois ce qu'il prétend auprès de l'empereur.
De ce qu'il me demande il m'y feroit un crime ;
Epargnant son rival, je serois sa victime ;
Et, s'il avoit affaire à quelque maladroit,
Le piége est bien tendu, sans doute il le perdroit :
Mais un vieux courtisan est un peu moins crédule ;
Il voit quand on le joue, et quand on dissimule ;
Et moi j'en ai tant vu de toutes les façons,
Qu'à lui-même au besoin j'en ferois des leçons.

Translate into French or German :—

I reprobate no form of government merely upon abstract principles. There may be situations in which the purely democratic form will become necessary. There may be some where it would be clearly desirable. This I do not take to be the case of France, or of any other great country. Until now, we have seen no examples of considerable democracies. The ancients were better acquainted with them. Not being wholly unread in the authors, who had seen the most of those constitutions, and who best understood them, I cannot help concurring with their opinion, that an absolute democracy, no more than absolute monarchy, is to be reckoned among the legitimate forms of government. They think it rather the corruption and degeneracy, than the sound constitution of a republic. If I recollect rightly, Aristotle observes, that a democracy has many striking points of resemblance with a tyranny. Of this I am certain, that in a democracy, the majority of the citizens is capable of exercising the most cruel oppressions upon the minority, whenever strong divisions prevail in that kind of policy, as they often must ; and that opposition of the minority will extend to far greater numbers, and will be carried on with much greater fury, than can almost ever be apprehended from the dominion of a single sceptre.

Translate into English :—

Das Thal.

„Nein, zwiſchen dieſen drohenden Felſenmaſſen führet kein Weg hindurch! Hier müſſen wir bleiben oder umkehren!„ ſagte ich zu meiner Gefährtin, als wir auf einer kleinen Reiſe uns in einem engen Thale, von unüberſteiglichen Bergen umgeben, befanden, wo Nichts, als Felſen, theils ſchroff und kahl, theils mit finſtern Wäldern bewachſen, ſich unſern Augen zeigten, die vergebens nach einem Auswege forſchten. Bald ward unſere Lage noch ſchlimmer; der ſchmale Steig, der uns führte, ſenkte ſich in einiger Entfernung von uns in die Tiefe und verſchwand dann gänzlich. Nirgends ein Pfad durch die ſchwarzen Kiefernwälder, die ſchon ſeit der Sündfluth da geſtanden zu haben ſchienen; Nirgends ein betretener Weg, eine Hütte oder nur eine lichtere Stelle im Walde! Wir ward bange, denn die gefürchtete Tiefe kam immer näher.

Aber wie angenehm erſtaunten wir, als wir bei der nächſten Krümmung des Weges ſahen, daß wir keinen jähen Abſturz vor uns hatten, und der Grund ſich nur allmählich ſenkte. Schon zeigte ſich auf dem entgegengeſetzten Hügel ein weißer Streifen, der ſich im Walde verlor. Es war ein Weg. Wir folgten ihm; und ſich, er wand ſich über Hügel und Tiefen, durch Felſen und Wälder, zwiſchen zwei himmelanſteigenden Bergen durch, die mir in der Ferne nur einer geſchienen hatten, und brachte uns bald an einen bewohnten Ort und auf die große Fahrſtraße.

O Vorſicht, die du unſer Schickſal auf eine unbegreifliche Art leiteſt, wie konnte ich hier im Kleinen ein Bild deiner Führungen bewundern! Oft läſſeſt du uns durch eigne

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General Class Examination.

Schuld oder die Verkettung der Umſtände in Lagen gerathen, wo wir Nichts, als langes Elend und unaufhörlichen Jammer vor uns zu ſehen glauben; mit ſtummer Angſt erwarten, wir den Todesſtreich, der unſer Schickſal entſcheiden und jede Hoffnung auf Freude uns rauben ſoll. Aber ſiehe, da öffnet deine Mutterhand plötzlich eine heitere Ausſicht vor unſern Blicken; du zeigſt uns einen Pfad aus den Klippen, die uns umgeben, knüpfſt manchen Faden unſers ehemaligen Glückes wieder an und führſt uns neben Gefahren und Elend der frohen Rettung entgegen.

Car. Pichler.

Das Blümlein Wunderſchön.

Graf.

Ich kenn' ein Blümlein wunderſchön
Und trage darnach Verlangen.
Ich möchte es gerne zu ſuchen gehn,
Allein ich bin gefangen.
Die Schmerzen ſind mir nicht gering;
Denn als ich in der Freiheit ging,
Da hatt' ich es in der Nähe.

Von dieſem ringsum ſteilen Schloß
Laß ich die Augen ſchweifen
Und kann's von hohem Thurmgeſchoß
Mit Blicken nicht ergreifen;
Und wer mir's vor die Augen brächt'
Es wäre Ritter oder Knecht,
Der ſollte mein Trauter bleiben.

Roſe.

Ich blühe ſchön und höre dies
Hier unter deinem Gitter.
Du meineſt mich, die Roſe, gewiß,
Du edler, armer Ritter!
Du haſt gar einen hohen Sinn;
Es herrſcht die Blumenkönigin
Gewiß auch in deinem Herzen.

Graf.

Dein Purpur iſt aller Ehren werth,
Im grünen Ueberkleide,
Darob das Mädchen dein begehrt,
Wie Gold und edel Geſchmeide.
Dein Kranz erhöht das ſchönſte Geſicht:
Allein du biſt das Blümchen nicht,
Das ich im Stillen verehre.

Göthe.

HONOR AND SECOND YEAR STUDENTS.

*** Students of the Honor Class are expected to do one of the papers (French or German), and moreover engage upon the *second* paper. To Second Year Students *one* only of the papers is assigned.

GRAMMATICAL QUESTIONS.

FRENCH.

1. Form the *plur.* of *compound subst.*, such as: *arc-en-ciel*, *tête-à-tête*, and others you may remember. Do grammarians agree among themselves respecting the formation of this *plur.*? Would you write *chefs-d'œuvre* or

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General Class Examination.

chefs-d'œuvres (Acad.)? On what grounds does Lévizac prefer the first of the above two forms?

2. Form a group of *irreg. verbs* (2nd Conj.) in which the *characteristic* vowel of the *termination*, as well as the *final consonant* of the *root*, disappear in the 1st and 2nd *pers. pres. indic.*, but re-appear in the *prét. défin.* and *imp. subj.*

3. In like manner, form a group of *irreg. verbs.* (4th *Conjug.*) in which the *radical d* is changed into *gn* in the *plur. pres. indic.*, *imperf.*, *prét déf.*, and *pres. & imperf. subj.*

4. Give the *fut.* and *cond.* of the verbs *prévoir* (*to foresee*) and *pourvoir* (*to provide*), also the *prét. déf.* and *imperf. subj.* of the same verbs.

5. Give the *imperf. subj.* and the *past partic.* of the verbs *coudre*, *moudre*, *résoudre*. Has any of the above verbs a varied form in any tense or mood? Remark on and translate: "Le soleil a *résous* le brouillard en pluie." "Il a *résolu* de changer de conduite."

6. "*Avoir affaire* de" (=" *avoir besoin de*," *to be in need of*). May the following phrases convey a *different* meaning, when a latent notion of *dissatisfaction* or *contempt* is implied? Translate: J'ai bien *affaire de* cet homme-là. J'ai bien *affaire de* tout cela! Qu'-ai je *affaire du* trône et de la main d'un roi (*Corneille*).

7. Translate or explain the following idiomatic locutions: A brebis tondue Dieu mesure le vent. Un *tiens* vaut mieux que deux tu l'*auras*. Il sait lui tenir tête.

8. "Atteindre *un* certain age." Would you use, as above, the *régime direct* (acc.) also, in designating *tendency? Transl.*: To attain perfection. To attain the height of glory. *Retransl.* (from La Harpe's Cours de Littr.); "The bad writers of Rome felt that it was easier to avoid the inflated style of the orators of Asia than to *attain* the elegant simplicity of Demosthenes."

9. Distinguish between *aider* (with *rég. direct*) and *à* (*rég. indir.*), and *transl.*: Assist my memory a little. Assist this person paying his debts. When my exercise (*thême*) was finished, I assisted him doing his (*J. J. Rousseau.*)

Which of the following two phrases is to be preferred (accord. to the *Fr. Acad.*) "On doit s'aider *les uns les autres*,"—or, "les uns *aux* autres" (*Bossuet*).

GERMAN.

1. Define and exemplify (after Dr. Becker's system) the *ancient* and *modern* declension of substantives and adjectives.

2. Decline any substantive of the *ancient* form with an adjective in the *modern* form.

3. Give some instances of verbs in which the e of the termination must be retained before the final characteristic radical, and when it may be rejected in the 2nd and 3rd *pers. sing.*

4. Give the 2nd and 3rd *pers. pres. indic.*, and the *imperf. indic.* and *subj.* of the verbs fechten, rathen, ſterben, laufen, helfen.

5. Form some sentences with prepositions governing *different* cases according to the place assigned to the *noun* before or after the preposition.

6. Form some *primary nouns subst.* from verbs of the *ancient* form, changing the radical vowel.

7. Explain and exemplify Dr. Becker's theory respective to *derivative substantives* of the so-termed "mittelform."

8. Form some sentences to illustrate the rules of grammatical *transposition* and *inversion* respectively.

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General Class Examination.

THIRD YEAR STUDENTS.

Translate into English ;—

A Rome, l'on ne trouve guerre que les débris des monuments publics, et ces monuments ne retracent que l'histoire politique des siècles écoulés ; mais à Pompéi, c'est la vie privée des anciens qui s'offre à vous telle qu'elle était. Le volcan qui a couvert cette ville de cendres, l'a préservée des outrages du temps. Jamais des édifices exposés à l'air ne se seraient ainsi maintenus, et ce souvenir enfoui s'est retrouvé tout entier. Les peintures, les bronzes, étaient encore dans leur beauté première, et tout ce qui peut servir aux usages domestiques, est conservé d'une manière effrayante. Les amphores sont encore préparées pour le festin du jour suivant ; la farine qui allait être pétrie est encore là ; les restes d'une femme sont encore ornés des parures qu'elle portait dans le jour de fête que le volcan a troublé, et ses bras desséchés ne remplissent plus le bracelet de pierreries qui les entoure encore. On ne peut voir nulle part une image aussi frappante de l'interruption subite de la vie. Le sillon des roues est visiblement marqué sur les pavés dans les rues, et les pierres qui bordent les puits, portent la trace des cordes qui les ont creusées peu à peu. On voit encore sur les murs d'un corps de garde les caractères mal formés, les figures grossièrement esquissées, que les soldats traçaient pour passer le temps, tandis que ce temps avançait pour les engloutir.

Quand on se place au milieu du carrefour des rues, d'où l'on voit de tous les côtes la ville, qui subsiste encore presqu'en entier, il semble qu'on attende quelqu'un, que le maître soit prêt à venir ; et l'apparence même de vie qu'offre ce séjour fait sentir plus tristement son éternel silence. C'est avec des morceaux de lave petrifiée que sont bâties la plupart de ces maisons qui ont été ensevelies par d'autres laves. Ainsi, ruines sur ruines, et tombeaux sur tombeaux ! Cette histoire du monde, où les époques se comptent de débris en débris, cette vie humaine, dont la trace se suit à la lueur des volcans qui l'ont consumée, remplissent le cœur d'une profonde mélancolie. Qu'il y a longtemps que l'homme existe ! Qu'il y a longtemps qu'il vit, qu'il souffre, et qu'il périt ! Où peut-on retrouver ses sentiments et ses pensées ? L'air qu'on respire dans ces ruines en est-il encore empreint, ou sont-elles pour jamais déposées dans le ciel, où règne l'immortalité ? Quelques feuilles brûlées des manuscrits qui ont été trouvés à Herculanum et à Pompei, et que l'on essaie de derouler à Portici, sont tout ce qui nous reste pour interpréter les malheureuses victimes que le volcan, la foudre de la terre, a dévorées. Mais en passant près de ces cendres, que l'art parvient à ranimer, on tremble de respirer, de peur qu'un souffle n'enleve cette poussière, où de nobles idées sont peut-être encore empreintes.

Josabet. Je sais que, près de vous en secret assemblé,
Par vos soins prévoyants leur nombre est redoublé ;
Que pleins d'amour pour vous, d'horreur pour Athalie,
Un serment solemnel par avance les lie
A ce fils de David qu'on leur doit révéler.
Mais, quelque noble ardeur dont ils puissent brûler,
Peuvent-ils de leur roi venger seuls la querelle?
Pour un si grand ouvrage est-ce assez de leur zèle ?
Doutez-vous qu'Athalie, au premier bruit semé
Qu'un fils d'Ochozias est ici renfermé,
De ses fiers étrangers assemblant les cohortes,
N'environne le temple, et n'en brise les portes ?
Suffira-t-il contre eux de vos ministres saints,

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General Class Examination.

Qui levant au Seigneur leurs innocentes mains,
Ne savent que gémir et prier pour nos crimes,
Et n'ont jamais versé que le sang des victimes?
Peut-être dans leurs bras Joas percé de coups—
Joad. Et comptez-vous pour rien Dieu qui combat pour nous?
Dieu, qui de l'orphelin protège l'innocence,
Et fait dans la faiblesse éclater sa puissance;
Dieu, qui hait les tyrans, et qui dans Jezraël
Jura d'exterminer Achab et Jezabel;
Dieu, qui, frappant Joram le mari de leur fille,
A jusques sur son fils poursuivi leur famille;
Dieu dont le bras vengeur, pour un temps suspendu,
Sur cette race impie est toujours étendu?
Josabet. Et c'est sur tous ces rois sa justice sévère
Que je crains pour le fils de mon malheureux frère.
Qui sait si cet enfant, par leur crime entraîné,
Avec eux en naissant ne fut pas condamné?
Si Dieu, le séparant d'une odieuse race,
En faveur de David voudra lui faire grace?
Hélas! l'état horrible où le ciel me l'offrit
Revient à tout moment effrayer mon esprit.
De princes égorgés la chambre ètat remplie:
Un poignard à la main l'implacable Athalie
Au carnage animait ses barbares soldats,
Et poursuivait le cours de ses assassinats.

Translate into Italian, German, or French:—

In the predilection of the Florentines for Giuliano, (de' Medici) historians are agreed. Even Machiavelli allows, that he possessed all the humanity and liberality that could be wished for in one born to such an elevated station, and that his funeral was honoured by the tears of his fellow-citizens. Tall of stature, strong in his person, his breast prominent, his limbs full and muscular, dark eyes, a lively look, an olive complexion, loose black hair turned back from his forehead; such is the portrait given of Giuliano by his intimate associate Politian, who to these particulars has further added, that he excelled in active exercises, in horsemanship, in wrestling, in throwing the spear; that he was habituated to thirst and to hunger, and frequently passed a day in voluntary abstinence; possessed of great courage, of unshaken fortitude, a friend to religion and order, an admirer of painting, music, and other elegant arts.

Translate into English:—

Wer dächte nicht mit innigem Entzücken an jene glücklichen Tage und Stunden, in denen ſein mährchenluſtiges Kindergemüth zum erſten Male von der Geſchichte und den ſeltſamen Abenteuern des auf eine wüſte Inſel verſchlagenen, Robinſon hörte? Es überkommt uns in dieſer Erinnerung unwillkürlich wieder ein Stück Jugendleben. Jenes Gefühl taucht in uns auf, von dem der Dichter ſagt:

Aus der Jugendzeit, aus der Jugendzeit
Klingt ein Lied mir immerdar,
O wie liegt ſo weit, o wie liegt ſo weit,
Was mein einſt war.

Gewöhnlich leſen wir den Robinſon nur in jenen ſelig unbefangenen Jahren, in denen wir ein Kunſtwerk wie ein Naturwerk betrachten. Genug, daß es da iſt, daß es uns entzückt und alle unſere Sinne gefangen nimmt; was fragen wir da weiter, woher es kommt, durch wen und unter welchen Umſtänden es entſtanden iſt. Und ſpäter, wenn uns die zunehmende Erfahrung um dieſe glücklich harmloſe Stimmung gebracht hat, da

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haben wir längſt auch den Robinſon bei Seite gelegt, und nur ſehr Wenige finden dann noch Neigung und Muße, wieder einmal das ihnen einſt ſo liebe Kinderbuch in die Hand zu nehmen.

Davids Harfe.

Eines Tages ſaß David, der König von Iſrael, auf der Höhe von Sion; ſeine Harfe ruhte vor ihm, und er lehnte ſein Haupt auf die Harfe. Da trat der Prophet Gad zu ihm und ſprach: „Wem ſinneſt du nach, mein König?"—David antwortete und ſprach: „Meinem ewig wechſelnden Schickſal! Wie viele Dankund Freudengeſänge, aber auch wie viele Trauer-und Klagelieder habe ich dieſer Harfe geſungen!—" —„Sei du gleich der Harfe!" ſagte der Prophet. „Wie meinſt du?" fragte der König.—„Siehe," antwortete der Mann Gottes, „dein Schmerz wie deine Freude entlockte der Harfe himmliſche Töne und beſeelte die Saiten. So bilde Leid und Freude dein Herz und Leben zur himmliſchen Harfe."

Da erhob ſich David und griff in die Saiten.

Krummacher.

Nacht.

Im Windsgeräuſch, in ſtiller Nacht
Geht dort ein Wandersmann;
Er ſeufzt und weint und ſchleicht ſo ſacht
Und ruft die Sterne an:
„Mein Buſen pocht, mein Herz iſt ſchwer;
In ſtiller Einſamkeit,
Mir unbekannt, wohin, woher,
Durchwandl ich Freud' und Leid.
Ihr kleinen, goldnen Sterne,
Ihr bleibt mir ewig ferne!
Ferne, ferne—
Und ach, ich vertraut' euch ſo gerne!"
Da klingt es plötzlich um ihn her,
Und heller wird die Nacht,
Sehen fühlt er nicht ſein Herz ſo ſchwer,
Er dünkt ſich neu erwacht:
„O Menſch! du biſt uns fern und nah,
Doch einſam biſt du nicht:
Vertrau' uns nur! Dein Auge ſah
Oft unſer ſtilles Licht.
Wir kleinen, goldnen Sterne
Sind dir nicht ewig ferne!
Gerne, gerne
Gedenken ja deiner die Sterne!"

Tieck.

MATHEMATICS.—*Examiner, Professor Purser.*

FIRST YEAR STUDENTS.

ALGEBRA.

1. Multiply $2x^3-7x-15$ by x^2-x-6, and divide the result by $x^2-3x-10$.

2. Find the sum of the series

$10+12\frac{1}{2}+15+17\frac{1}{2}$ to 101 terms.
$1-x+x^2-$ &c. to n terms.
$1+x+2x^2+3x^3$ *ad inf.*, when $x \angle 1$.

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3. Solve the following equations:

$$\frac{x-3}{2(x-7)}=\frac{x-4}{2x-5} \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\alpha)$$

$$3x^2-14x+17=9 \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\beta)$$

$$\left.\begin{array}{l} 17x+20y=-11 \\ 4x+5y=2 \end{array}\right\} \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\gamma)$$

4. Solve

$$x^2+\tfrac{1}{2}\sqrt{x^2+x-1}=\frac{3}{2}-x \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (a)$$

$$\left.\begin{array}{l} x^2+xy=176 \\ xy-y^2=30 \end{array}\right\} \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\beta)$$

5. What is meant by a convergent series and a divergent series? Show that the following series are convergent:

$$1+\frac{n}{1}x+\frac{n.n-1}{1.2}x^2+ \text{ \&c.,} \qquad \text{when } x \angle 1.$$

$$1+\frac{y}{1}+\frac{y^2}{1.2} \text{ \&c.} \qquad \text{always.}$$

$$1+\frac{a\cos\beta}{1}+\frac{a^2\cos 2\beta}{1.2}+ \text{ \&c.,} \qquad \text{always.}$$

6. Prove that if $e=1+\frac{1}{1}+\frac{1}{1.2}+$ &c.

$e^x=1+\frac{x}{1}+\frac{x^2}{1.2}+$ &c.

Sum the series $1+\frac{x^2}{1.2}+\frac{x^4}{1.2.3.4}$ &c.

7. If α and β be the roots of the equation $x^2-px-q=0$, prove

$$\log\left(1-\frac{p}{x}-\frac{q}{x^2}\right)=-\left\{\frac{\alpha+\beta}{x}+\frac{\alpha^2+\beta^2}{2x^2}+\frac{\alpha^3+\beta^3}{3x^3} \text{ \&c.}\right.$$

Hence express $\alpha^m+\beta^m$ in terms of p and q and

$a^m+\frac{1}{a^m}$ in terms of $a+\frac{1}{a}$.

8. If $\frac{p}{q}, \frac{p'}{q'}$ are two consecutive convergents to a continued fraction, prove that $pq'-p'q=\pm 1$, and that the error induced by stopping at the convergent $\frac{p}{q}$ is less than $\frac{1}{qq'}$.

Express $\sqrt{29}$ as a continued fraction, and calculate the first 5 convergents.

9. A community numbering n individuals is divided upon a certain question, two-thirds holding one view and one-third another. A stranger coming amongst them finds the first three persons he speaks to all on the same side, which he concludes to be the side of the majority, prove that the probability that he is right is $4.\frac{2n-3}{n-6} : 1$

10. Investigate Cardan's solution of the cubic

$$x^3-qx-r=0$$

and apply it to $x^3-12x-8=0$.

11. Assuming the truth of the binomial theorem when the index is integer and positive, prove it when the index is fractional or negative; find the coefficient of x^6 in $(1+3x^2-x^3)^5$ and of x^r in $(1+ax-bx^2)^n$.

Appendix,
No. 8.

General Class Examination.

12. Resolve

$$\frac{3x^2-7x+1}{x(x-2)^2} \text{ into partial fractions.}$$

13. Eliminate x between

$$\left.\begin{array}{l} Ax^3+Bx^2+D=0 \\ A'x^3+B'x^2+D'=0 \end{array}\right\}.$$

TRIGONOMETRY AND GEOMETRY.

1. If a right line be divided equally and unequally, the rectangle under the unequal segments, together with the square of the intermediate segment, is equal to the square of half the line.

2. The right line bisecting the vertical angle of a triangle divides the base into segments proportional to the conterminous sides.

3. Given base and (m) times the square of one side, together with (n) times the square of the other, find locus of vertex.

Find a point such that the sum of the squares of its distances from three given points is a minimum.

4. If a tangent be drawn at any point (P) of an ellipse intersecting the directrix in Z, PZ subtends a right angle at the focus.

5. A variable tangent to an ellipse intersects two fixed tangents, prove that the segment cut off on the variable tangent subtends a constant angle at the focus.

6. Prove the radius of the circle of curvature at any point on a parabola $=\frac{2r^2}{p}$

where $r=$ line joining point to focus

$p=$ perpendicular from focus on tangent.

7. Define the circular measure of an angle. Given that π, the ratio of the circumference of a circle to its diameter $=3.14159$, find the angle whose circular measure is 3.

8. Prove the formula

$$\cos(A+B)=\cos A \cos B-\sin A \sin B$$

when A and B are each less than 90°; and that

$$\sin^2 A-\sin^2 B=\sin(A+B)\sin(A-B).$$

9. Prove

$$\sin \tfrac{1}{2}A=\sqrt{\frac{\overline{s-b}.\overline{s-c}}{b.c}}$$

$$\frac{\tan \frac{1}{2}(A-B)}{\tan \frac{1}{2}(A+B)}=\frac{a-b}{a+b}.$$

10. Show that, in any triangle, $\tan B=\frac{b \sin A}{c-b \cos A}$;

and hence that

$$B=\frac{b}{c}\sin A+\frac{b^2}{2c^2}\sin 2A+\frac{b^3}{3c^3}\sin 3A+, \text{ \&c.}$$

Prove this series convergent if $b<c$.

11. Demonstrate De Moivre's theorem,

$$(\cos\theta+\sqrt{-1}\sin\theta)^n=\cos n\theta+\sqrt{-1}\sin n\theta$$

for all indices.

Appendix, No. 8.

General Class Examination.

12. Assuming the exponential values of sine and cosine, prove that

$$1+a\cos x+\frac{a^2}{1.2}\cos 2x+, \text{\&c., } \textit{ad inf.} \quad =e^{a\cos x}\cos(a\sin x)$$

and that
$\log(1-\sin 2\beta.\cos x)=2\log\cos\beta-2\{\tan\beta\cos x+\frac{1}{2}\tan^2\beta.\cos 2x+\frac{1}{3}\tan^3\beta\cos 3x+$, &c.$\}$

13. If $\cos.x=\frac{\cos a-\cos b\cos c}{\sin b\sin c}$ then $\frac{\sin x}{\sin a}=\frac{2\sqrt{\sin s.\sin\overline{s-a}\sin\overline{s-b}\sin\overline{s-c}}}{\sin a.\sin b.\sin c}$

where $s=\frac{a+b+c}{2}$.

SECOND YEAR STUDENTS.

ANALYTIC GEOMETRY.

[N.B.—The last three questions are to be solved geometrically.]

1. Prove that any right line may be represented by an equation of the first degree x and y, and that if (p) be the perpendicular from the origin, and (a) the angle which this perpendicular makes with the axis of x, the equation may be written $x\cos a+y\sin a=p$.

2. The co-ordinates of the vertices of a triangle are x_1y_1, x_2y_2, x_3y_3, find the equations of the perpendiculars from the angles on the opposite sides, and prove from the form of the equations that the three perpendiculars meet in a point.

3. Find the equation of the circle described on the line joining x_1y_1 x_2y_2 as diameters.

Write down in a form involving one arbitrary parameter the general equation of all circles passing through these two points.

4. If the equation $ax^2+2hxy+by^2+2gx+2fy+c=0$ represent a pair of right lines, prove that the angle ϕ at which they intersect is given by the equation

$$\tan\phi=\frac{\sqrt{h^2-ab}}{a+b}$$

Hence show that the locus of a point at which the ellipse $\frac{x^2}{a}+\frac{y^2}{b^2}=1$, and the circle $x^2+y^2=\frac{a^2+b^2}{2}$ subtend equal angles, is the equilateral hyperbola $x^2-y^2=\frac{a^2-b^2}{2}$.

5. Investigate the equation of the pair of tangents from the origin to the conic represented by the general equation, and the condition that these tangents coincide.

6. Find the locus of the intersection of perpendiculars of the triangle formed by a variable point on the ellipse and the two foci.

7. Given the equation of a conic referred to the tangent and normal, $ax^2+2hxy+by^2+2fy=0$, prove that the equation of the osculating circle at the origin is $x^2+y^2+2\frac{f}{a}y=0$. The equation of the parabola which has contact of the third order with the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ at the point $x'y'$ may be written in the form

$$\frac{(xy'-yx')^2}{a^2b^2}+2\left(\frac{xx'}{a^2}+\frac{yy'}{b^2}-1\right\}=0$$

Appendix, No. 8.

General Class Examination.

8. Two vertices of a given triangle move along fixed right lines, find the locus of the third.

9. Find the condition that the line $\frac{x}{m}+\frac{y}{n}=1$ touch the ellipse $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$.

10. The line joining the intersection of two tangents to an ellipse to the focus bisects the angle between the focal radii to the points of contact.

11. If a circle intersect an ellipse, the chords of intersection make equal angles with the transverse axis. Hence construct the chord in which the osculating circle at any point intersects the ellipse.

12. If a right cone be cut by a plane, the curve of section is a conic whose eccentricity $=\frac{\sec \alpha}{\sec \beta}$

where $\alpha=$semiangle of cone

$\beta=$angle which the plane makes with its axis.

DIFFERENTIAL AND INTEGRAL CALCULUS, &c.

1. Differentiate the following expressions :—

$$\log(a+bx^n) \qquad e^{\tan^{-1}x}+\tan^{-1}(e^x) \qquad \frac{(x^2-a^2)^{\frac{3}{2}}}{(x^2+a^2)^{\frac{5}{2}}}.$$

2. If $\frac{d}{dx}\ \phi(x)=\psi(x)$ then $\frac{d}{dx}\ \phi^{-1}x=\frac{1}{\psi\phi^{-1}(x)}$.

3. Prove that if $f(x)$ and $f'(x)$ are continuous between x and $x+h$

$$f(x+h)=f(x)+f'(x)\frac{h}{1}+f''(x+\theta h)\frac{h^2}{1.2}$$

where θ lies between 0 and 1.

4. Expand $\sin x$ and $\tan x$, the latter as far as the fifth power of (x) by Maclaurin's theorem.

5. A boat's crew find that they can row up a certain reach on a river against the stream with least fatigue by keeping up a speed of six miles an hour. Supposing the fatigue to vary as the cube of their speed through the water multiplied by the duration of the row, find the rate the river flows.

Find the maximum and minimum values of $\frac{x^2-x+1}{x^2+x-1}$.

6. Find the limiting value of $\frac{e^x-e^{-x}}{\log(1+x)}$ when $x=0$.

The curve $y=\frac{1-\cos x}{\log(1+x)}$ passes through the origin, find the direction of the tangent to the curve at that point.

7. Change the independent variable from x to y in the equation—

$$\cos x.\frac{d^2u}{dx^2}+\sin x\frac{du}{dx}+\cot^3 x=0$$

where $y=\sin x$.

Express $\frac{d^3x}{dy^3}$ in terms of $\frac{dy}{dx}$ $\frac{d^2y}{dx^2}$, $\frac{d^3y}{dx^3}$.

8. If $u=x^3+y^3-3axy$ prove that when $x=a$ $y=a$, u is a minimum if (a) be positive and a maximum if (a) be negative.

9. Prove the expression for the radius of curvature $R=r\frac{dr}{dp}$ where r=radius vector and p=perpendicular on tangent; and hence show that in the parabola $R=\frac{2r^{\frac{3}{2}}}{\sqrt{m}}$ in the ellipse $R=\frac{(2a-r)^{\frac{3}{2}}r^{\frac{3}{2}}}{ab}$ the focus in each case being taken as origin.

10. Eliminate by differentiation the arbitrary constants from the equation $y=e^x(cx+c')$ and the arbitrary functions from

$$z=\phi(x+ay)+\psi(x-ay).$$

11. Determine the following integrals:—

$$\int\frac{dx}{1+x+x^2}\qquad\int\frac{du}{(1-x^2)^{\frac{3}{2}}}.$$

Explain clearly in what sense $\int_b^a f(x)dx$ may be regarded as a sum.

12. Prove that $\int udv=uv-\int vdu$ and apply this formula to the following

$$\int\tan^{-1}x\,.\,dx\qquad\int xe^x dx\qquad\int x^3\cos x dx.$$

NATURAL PHILOSOPHY.—*Examiner, Dr. Stevelly.*

EXPERIMENTAL PHYSICS.

1. A rigid body is capable of turning freely in every direction round one point of it (A) which is fixed to its place; two forces, P and Q, are applied at points whose linear distances from A are respectively p and q. State and prove the conditions which are necessary and sufficient to secure equilibrium.

2. How are couples measured? Define the *arm* and the axis of a couple. Prove that the efficacy of a couple is not changed if we transfer it to act on the same rigid body in any plane which is parallel to its own plane.

3. Define the centre of gravity of a heavy body. Explain how the centre of gravity of a flat plate of uniform density, but of any shape whatever, can be experimentally determined; and state by what experimental test you can prove that the point you have thus arrived at is truly the centre of gravity of the plate.

4. Explain how the pressure of a heavy and totally incompressible fluid increases as the depth beneath the upper or free surface is increased. Also, how that increase of pressure is modified if the fluid be compressible. Also, the law of the increase, if the compressible fluid obey Boyle's or Marriotte's law of compressibility.

5. State and give the experimental proof of the law which governs the velocity of efflux of a heavy fluid spouting from an orifice beneath the free surface. Describe Barker's centrifugal mill, and explain the cause of its motion.

6. Explain how the specific gravity of mercury is obtained. Describe the Hydrometer, and its use in taking the specific gravity of liquids.

7. Explain clearly what opticians mean by the angle of Incidence, the angle of Reflexion, the angle of Refraction, and the angle of Deviation, when a ray of light is incident on a surface bounding two media.

8. Enumerate the six varieties of lenses. Distinguish them into two classes by the difference of their actions on pencils of light. Define the centre and the principal geometrical focus of a lens.

Appendix, No. 8.

General Class Examination.

9. Describe the essential parts of a transit instrument; its principal adjustments; and use in taking the Right Ascensions of heavenly objects.

10. Enunciate Kepler's three laws of planetary motions; and state the most important of the deductions obtained from each.

11. State clearly the laws which govern the mutual actions of permanent magnets on each other. State in what respects these differ from the mutual actions of a permanent magnet and a bar of soft iron.

12. Describe the Electrophorus; and state how you would experimentally determine whether its metallic plate, when raised, is charged with free electricity, positive or negative.

13. Describe exactly Œrsted's fundamental experiment of the influence of a wire conveying a galvanic current upon a freely suspended magnetic needle.

14. Explain what is meant by latent heat; exemplify in the transition of ice into liquid water, and water into steam, and explain how its amount is determined.

MATHEMATICAL PHYSICS.

1. Two horses, one on each side of a canal, tow a boat along it. The ropes by which they are attached to it are each 70 feet long; and the shortest distance of the two tow-paths is 70 feet: each strains the rope by which he draws with a force of 200 lb. State and prove the direction and magnitude of the tractive force they unitedly exert on the boat.

2. The points at which two forces are applied to the perfectly hard and smooth faces of a rigid triangle are given; assign the directions in which alone these forces can be resisted by the triangle; and assign the point in the third face at which a similar force should be applied, in order to equilibrate with the two former. Also state the proportions and other relations of these forces when they equilibrate.

3. Let a be the diameter of a homogeneous sphere of heavy matter; remove eccentrically a lesser sphere of the matter whose diameter is b; and let the distance between the centres of these two spheres be d: find the position of the centre of gravity of the remaining eccentric shell of matter. Also, when the removed sphere (b) is made to touch internally the large sphere (a) find the distance of the centre of gravity from the centre of the large sphere.

4. A weight, P, is attached by a light and perfectly flexible string passing over a perfectly free pulley at the top of a smooth inclined plane, whose length is l, and whose height is h, to a lesser weight, Q, which rests on the plane. P is allowed to descend vertically, by gravity, so as to accelerate Q up the plane. Find the distance from the point at which P begins to move, at which a stage must be placed to stop the further action of P, so that Q may just reach the top of the plane by the velocity it has acquired.

5. Prove the formula $f=\frac{4\pi^2 r}{P^2}$ which relates to the centrifugal (or centripetal) force of a revolving inert mass; and explain clearly what the symbols f, r, P, and π mean; and especially f.

6. Two circular cylinders accurately fitted with pistons are portions of a vessel containing an incompressible fluid; the lesser piston is one inch in diameter, the larger eleven inches; the lesser piston is urged inwards with a force of 28 lbs. Calculate the resistance that must be applied to the larger piston to equilibrate the action exerted on it through the fluid; and give the proof of what you assert.

Appendix, No. 8.

General Class Examination.

7. Two immiscible heavy fluids of different specific gravities, are contained in a vessel, find the form of the common or separating surface; and if a heavy body, lighter than the heavier fluid but heavier than the lighter, swim partly immersed in each, find the proportion of the volumes of the portions of it which are in each. Also, if the lighter fluid were removed, which would the swimming body be more or less immersed in the heavier fluid?

8. Show how the time is calculated which a cylindric or prismatic shaped vessel filled with a heavy fluid would take to empty itself down to an orifice opened beneath the surface of the fluid.

9. Enunciate each of the Pneumatic laws, and give the technical names by which they are known, whereby we calculate the increased elastic force of any air or vapour, if we either increase the density of it in any proportion, or add any number of degrees to its temperature.

10. If r be the radius of a CONCAVE spherical reflector and v and v' the respective distances of a radiant point and its conjugate geometric forces from the vertex of the incident pencil, prove the formula $\frac{1}{v'}+\frac{1}{v}=\frac{2}{r}$ and show what change is requisite in its symbols to make it applicable to the reflexion of a pencil by a CONVEX spherical reflector.

11. Give the argument for the sphericity of the earth derived from the fact, that the altitude of the elevated celestial pole is increased proportionally to the measured distance the observer changes his place along the surface on the meridian towards the point of the horizon of the same name. Explain how from this the magnitude of the earth is obtained.

12. Explain what Astronomers mean by "Parallax." Show how the horizontal parallax of a planet or other comparatively near celestial object is obtained; and how from thence its distance and magnitude.

THIRD YEAR ENGINEERING STUDENTS.

NATURAL PHILOSOPHY APPLIED.

1. A man weighs 160 lbs., he ascends a tower 64 feet high. Find the number of units of work he has performed. Explain the principle, and define the terms used in your determination.

2. The ram of a pile engine which weighs one ton is moving at the rate of $32\frac{1}{6}$ feet at the instant it strikes the pile. Find the total work it has expended on the pile during the stroke which brings it to rest.

3. Two horses, of average strength and activity, raise coal from a pit 160 fathoms deep. Find the number of tons they can raise per hour, by the aid of a winding machine whose modulus is 0·75.

4. A rectangular block of granite is 10 feet long, 6 feet broad, and 8 feet deep; the s. g. of the granite is 2·63. Find the work expended in raising it up until it will turn over to rest on one of its ends. Also find the ratio of that work to the work expended in raising it until it will turn to sit on either of its sides from the other side

5. Enumerate the moving powers which man has at his command to perform work. Write down the formula which expresses the law by which fluids in motion act upon plane surfaces which they encounter as they move.

6. State and explain the leading circumstances which distinguish the action of gravity from that of other forces when they act dynamically.

Appendix, No. 8.
General Class Examination.

7. A sliding heavy body set gently into motion moves without changing its velocity down a rough plane, whose horizontal base is b, and whose height is h'. Find the expression for the force which accelerates that body down a plane of the same material elevated from the same base (b) to a greater height, h. Also find the expression for the time it would take to move from rest down the entire length, l, of that latter plane.

8. The water as it runs through the sluice which delivers it into the buckets of an overshot water-wheel, has a depth of 2 feet, a breadth of 3 feet, and an average velocity of $2\frac{1}{2}$ feet per second, the wheel is 35 feet high. Find the gross horse-power. Also explain how you would proceed to determine the modulus.

9. A train which weighs 60 tons is moving at the rate of 40 miles an hour up an incline of 1 in 100 at the instant the steam is shut off. Find how much farther it would move before it was brought to rest, the friction on the rails being supposed as usual; and the resistance of the air being neglected.

10. Suppose it to have been ascertained that a certain steamer experienced a resistance of 33 lbs. when moving steadily at the rate of one mile in the hour. Find the number of effective horses-power which an engine should exert upon her to keep her moving at 10 miles an hour.

11. Explain why steam used expansively is more economical than when it is not so worked. Explain also what limits the expansion which can be allowed in any given engine performing any given work.

12. State and prove the velocity ratio in contact motions, and find the expression for the ratio of the sliding to the angular motion round the centre of the driving piece.

NATURAL HISTORY.—*Examiner, Professor Wyville Thomson.*

BOTANY.

1. Describe the structure of the Ovule and of the Seed in the Natural Order Cruciferæ.

2. Give the distinctions between the Achene, the Drupe, the Samara, and the Caryopsis.

3. Describe minutely the fruit in the Umbelliferæ, the Compositæ, and the Leguminosæ.

4. State what is known with regard to the circulation of the Sap in Exogens.

5. Describe the mode of germination of one of the ordinary Dicotyledons, and of a Grass.

6. What are the characters of the Natural Orders Rosaceæ, Ranunculaceæ, Compositæ, and Umbelliferæ?

7. Distinguish the Liliaceæ from the Amaryllidaceæ, the Iridaceæ, and Orchidaceæ.

8. Describe the *Prothallium* of a Fern and the organs which are developed upon it.

CHEMISTRY.—*Examiner, Dr. M'Crea.*

CHEMISTRY.

1. Some water is introduced into the Torricellian vacuum, and the tube is surrounded by a bath, which is gradually heated to 230° F. Describe the effects observed. What relation do these effects bear to the quantity of liquid introduced?

Appendix, No. 8.

General Class Examination.

2. Convert 10° C., 8° R., and —32° C. into degrees F. Convert 40° F., 32° F., and —15° F. into degrees C.

3. What is latent heat? What are its relations to HO? Describe the apparatus employed by Dr. Andrews to measure the latent heat of vapours.

4. 100 cubic inches of dry air at 60° F., and under a pressure of 30 inches of mercury, weigh 31 grains. At what temperature does the same volume of dry air under a pressure of 29 inches weigh 25 grains?

5. What is meant by "the mechanical equivalent of heat"? Point out the distinguishing feature of the modern theory on this subject.

6. How would you analyze a mixture of hydrogen, nitrogen, carbonic acid, and oxygen?

7. What are the effects of strong nitric acid on copper, sulphur, gold, mercury, iron, and starch?

8. What are the impurities most commonly present in commercial sulphuric acid? How may each be detected and removed?

9. How is phosphorus prepared? What is the effect of a high temperature on it, (*a*) when in an atmosphere of oxygen, (*b*) when in an atmosphere of carbonic acid?

10. Show how the "theoretical density of vapour" of carbon is deduced. What are the *most characteristic* properties of carbonic acid? What common gas resembles it most closely in chemical characters?

11. What is the composition by volume of ammonia; how may it be experimentally determined?

12. Describe the preparation and leading properties of nitric anhydride.

13. How is solution of potash usually prepared? How would you purify the product of this process?

14. Complete the following equations:—

$$SbS_3+3HCl=$$
$$4(KO, CO_2)+S_{10}=$$
$$Sn_2+2(NO_5, HO)=$$
$$C_4H_6O_2+O_2=$$

15. Give a short description of the preparation of carbonate of soda from chloride of sodium.

16. What characteristics connect the bodies known as the "alums"? Write the formulae of a few of them.

17. Write the formulae of the oxides and sulphides of arsenic. Give their scientific and trivial names.

18. Define "homologous," "metameric," "polymeric," and isomeric." Give examples illustrative of each definition.

19. What are the chief characters that distinguish cane and grape sugars from each other?

20. 4·6 grains of an organic substance consisting of carbon, hydrogen, and oxygen, yielded, on combustion with oxide of copper, 8·76 grains of carbonic acid, and 5·44 grains of water. What was it?

21. Describe what you consider the best process for preparing ether. What is the simplest formula that represents the composition of this substance? What reasons are there for altering this formula?

22. Describe the plate electrical machine, and explain the principles of its construction.

23. How does a condenser of electricity act? Describe any apparatus of this kind.

24. What is the structure of a cell of Bunsen's battery? State clearly the uses of the different parts of it.

Appendix, No. 8.

General Class Examination.

PRACTICAL CHEMISTRY.

1. What are the effects observed on adding ammonia to solutions of the salts of lime, magnesia, iron, nickel, lead, and copper?

2. How would you analyze a mixture of alumina, sesquioxide of iron, protoxide of copper, and oxide of zinc?

3. Explain the process of the British Pharmacopoeia for the preparation of pure chloride of zinc.

4. Describe Reinsch's test for arsenic.

5. State carefully the effects observed on the addition of sulphide of ammonium to solutions of the salts of alumina, sesquioxide of iron, teroxide of antimony, and protoxide of lead.

6. A precipitate weighing 90 grains was obtained by adding nitrate of silver in excess to solution of hydrochloric acid. How much hydrochloric acid was present? The atomic weight of silver is 108.

7. How is morphia prepared?

8. What are the characters on which you would rely for the detection of cystine?

9. What are the characters of urate of ammonia?

10. How would you analyze a mixture of ammoniaco-magnesian phosphate, phosphate of lime, and oxalate of lime?

11. What are the tests of hydrocyanic acid?

12. What are the appearances produced in solutions of the protosalts and persalts of iron by the yellow and the red prussiates of potash?

CIVIL ENGINEERING.—*Examiner, Professor James Thomson.*

FIRST YEAR STUDENTS.

GEOMETRICAL DRAWING.

[NOTE.—Students trying for Prizes are recommended not to spend time in working the questions to which the word PASS is prefixed; unless after answering all they can do of the others.]

1. (*Pass.*) Make neat hand-sketches of the two small pieces of a steam-engine submitted to you, noting in full their dimensions numerically in inches.

2. (*Pass.*) In Descriptive Geometry:—Given the projections of a straight line, to find its traces.

3. (*Pass.*) Given the traces of two planes, to find the projections of the common section of the planes.

4. Explain without a diagram the principle on which to draw, through a given point, a straight line which shall meet two given straight lines.

5. Explain without a diagram the principle on which to draw a plane through three given points.

6. Explain without a diagram the principle on which to find the point of intersection of three given planes.

7. Two lines being taken as given for the major and minor axes of an oval, approximately an ellipse; the shorter line being not less than two-thirds of the longer; describe the oval, making its circumference of four circular quadrant arcs of two radii, described from four centres.

8. Give a demonstration of the reason of your construction in the foregoing question.

9. (*Of special importance for Honors.*) Explain briefly the several methods of drawing in perspective, taught in the course of the present session.

10. Given a sphere by its projections, and given a point on the surface of the upper half of the sphere, by its horizontal projection, it is required to find the traces of the plane which touches the sphere in the given point.

11. Give sketches of the eight regular mouldings of Classical Architecture, with their names.

Appendix, No. 8.

General Class Examination.

12. (*Pass.*) Make an isometrical drawing of a block of stone which consists of a rectangular parallelepiped 2 ft. 9 ins. long, 1 ft. broad, and 14 ins. high, with a pyramid 3 ins. in height, standing on the top of it as base, the vertex of the pyramid being situated centrally with respect to each pair of opposite vertical faces of the parallelepiped. The drawing is to be on the isometrical scale, corresponding to a natural one of one inch to a foot. Your construction is to be accompanied by explanations.

13. Explain the principle of the method of finding the isometric scale, from the natural scale, or the reverse, by means of a triangle having one angle of 15° and another of 45°.

14. If two straight lines, indefinite as to length, be given by their projections, how may it be found whether the straight lines intersect or not.

15. From a given point, to draw a line perpendicular to a given plane, and then to determine its length between the given point and plane. Explanation without a diagram will suffice.

16. Using a common foot rule or measure of inches, construct a scale by which to make measurements in metres and decimetres from a British drawing on a scale of one inch to a foot: the metre being equal to 3·28 British feet approximately.

[Note.—In the following questions on shadows, the light is to be taken as falling in the direction usually adopted, and specified as being in the direction of the diagonal of a cube which has two faces parallel to the two planes of projection, and being downwards, and forwards from the observer towards the vertical plane of projection, and from his left to right.]

17. A given horizontal flat thin circular disc, 1 inch in diameter, casts its shadow on the vertical plane of projection. Required the shadow.

18. A straight horizontal edge of an object is perpendicular to the vertical plane of projection. Its extremities are given by their projections. It casts its shadow on a vertical wall with vertical mouldings. How may the vertical projection of the shadow of the edge be found, and what special character will it have? Extend your answer regarding the special character of the vertical projection of the shadow, to the case of the shadow falling on mouldings or surfaces of any form whatever, whether vertical or not.

19. A circular cylinder terminated by flat faces perpendicular to its length, having its length $1\frac{1}{2}$ inches, and its diameter 1 inch, stands on the horizontal plane of projection, and its shadow falls wholly on that plane, the vertical plane of projection being taken so far off as not to receive any of it. Required the shadow.

20. Let the data of the foregoing question be changed merely by the addition of a hemisphere, having the same diameter as the cylinder, placed on the top of the cylinder like a dome. Required the shadow.

SECOND YEAR STUDENTS.

CIVIL ENGINEERING.

1. Explain how in a theodolite an image is formed of an object towards which the telescope is directed; and how the cross wires of the instrument are used in respect to the image so formed.

2. What is meant by the optical centre of the object-glass of a theodolite or levelling instrument?

3. Prove that in Gravatt's level, the method of adjustment usually prescribed for the line of collimation is needless, and also nugatory; and show what is the adjustment really required between any of the four parts following:—namely; 1st. *The object-glass, together with the portion of the telescope tube which bears it*;—2nd. *The portion of the telescope tube which*

Appendix, No. 8.

General Class Examination.

bears *the diaphragm ring with cross wires*:—3rd. *The diaphragm ring with cross wires*:—4th. *The longitudinal bubble tube.* In giving your answer, show whether, for sights on objects at different distances, the line of collimation in this instrument is necessarily, in principle, strictly a fixed line, relatively to the telescope tube bearing the object-glass considered as held at rest.

4. Show how to reduce areas given in Irish acres, roods, and perches, to statute measure.

5. State the usual formula for computing the area of a triangle when its three sides are given.

6. How may areas of lands usually be obtained by measurements from a map?

7. Describe the nature and uses of contour surveys and maps; and explain how a survey may be conducted for close contours such as those of two feet, three feet, or four feet apart.

8. How may the content of a pyramid be computed from the measurements usually most readily obtained?

9. What are the quantities expressed by the two distinct sets of numbers (one coloured, and the other plain), given in Bidder's Table of Earthwork?

10. Give reasons to show that the common opinion is fallacious, according to which it is said, that, for computing the contents of railway earthworks, the method of "*mean areas*" gives too much, that of "*mean heights*" too little; and that the ordinary "*prismoidal method*," giving an intermediate quantity, best represents the truth. Show, on the contrary, that all three give ordinarily too little, but that the method of mean areas comes nearest up towards the truth on the average of a whole cutting through a hill.

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1. How do curvature of the earth and atmospheric refraction bear upon levelling with the levelling instrument?

2. In the transit theodolite, explain how to test and adjust the line of collimation, so as to ensure that it shall be perpendicular to the axis on which the telescope turns in altitude. Also give reason why accuracy in this adjustment is of essential importance, or what kinds of erroneous indications would be given if the adjustment were imperfect.

3. The Y theodolite has no means for the adjustment referred to in the foregoing question; can you show reason why such adjustment is not very essential in it?

4. Explain the sextant, and demonstrate its fundamental principle.

5. Explain how the sextant is used for determining stations at sea, and how the stations so determined may be plotted on a chart.

6. Give explanations of the principles according to which it is shown that, for measurements of heights of places by the barometer, the difference of levels of two stations should be proportional to the difference of the logarithms of the heights of the mercurial columns at the two stations, if the air throughout from station to station, as also the two barometers themselves, be at one uniform temperature.

7. Give such further information as you can respecting the principles and methods of measuring heights by means of the barometer.

8. Name the five orders of Classical Architecture, and describe some of the chief points of distinction among them.

9. Show by sketches the eight regular mouldings of Classical Architecture, and give their respective names.

10. Name and distinguish the divisions or parts of a column, and those of an entablature.

THIRD YEAR ENGINEERING STUDENTS.

CIVIL AND MECHANICAL ENGINEERING.

1. In oblique bridges, according to the methods of Buck, what is the nature of the curved surface of the coursing beds, or how may it be generated? Also, how is it that the end edges of the stones, situated at the meeting of the beading and coursing faces, are straight lines perpendicular to the cylindric axis of the arch?

2. In those bridges, what is meant by the focus of the joints in the face of the arch?

3. State some of the principal provisions which are usually proper to be made in a specification for a contract for supplying large cast-iron pipes for town water-works, or some of the chief particulars which ought to be specified.

4. Give some brief explanations of the "Boulton & Watt Single Acting Pumping Engine," and the "Cornish Pumping Engine," distinguishing between the two, and showing reason for the superiority of the latter in "*duty*." Also, state what is a good or a high rate of duty for a Cornish Engine.

5. What is meant in Hydraulics by a *virtual fall* of a particle of water, as distinguished from an actual fall in elevation?

6. Explain what is meant by the *hydraulic mean depth*, and *wetted perimeter*, of a pipe or canal for conveying water.

7. Explain the contraction of the vein in water issuing from an orifice.

8. How may the quantity of air discharged by a certain orifice, under a certain pressure which is so slight as to admit of our neglecting the diminution of volume due to that impelling pressure, be determined, if the quantity of water which would flow per second by the same orifice under the same pressure be known, fluid friction being left out of account in both cases, and the densities of water and air being understood to be known?

9. If the flow of one fluid in a long pipe for a certain virtual fall be given, is it possible to deduce the flow of another fluid in the same pipe with the same virtual fall if we know the densities of the two? Give a short reason for your answer taken in connexion with the subject of the question immediately preceding.

10. Give a demonstration, or a sketch of a demonstration, to prove that in respect to the discharge of water from still pools by different orifices, similar in form, and similarly situated, relatively to the still water surface, the quantity flowing per unit of time must, on the supposition of the water being a perfect fluid, be proportional to the $\frac{5}{2}$ power of the lineal dimensions.

11. Give reason why the same may be expected to hold good approximately, even when fluid friction is taken into account, except for the case of very small orifices and low velocities.

12. Taking for granted the principle stated in question 10 (whether you have answered that question or not), prove that the Lowell formula for the flow of water in rectangular notches, empirically arrived at by Mr. Francis, is, when taken without regard to the exact amounts of its numerical coefficients, strictly correct for water regarded as a perfect fluid.

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1. In brick arch bridges built in coaxial laminae, or "rings" without bond between them, the laminae are generally found not to separate, but to remain in close contact. Give reasons for this in contrast with the fact that a vertical wall built in laminae without cross bond would split.

Appendix, No. 8.

General Class Examination.

2. Explain why, in cast iron or stone arch bridges, the pressures or stresses are indeterminate, and are variable from time to time.

3. In the model braced beam placed before you, show that the system of bracing is perfect for a load applied at the centre, but not for loads at other points in the length.

4. Name the five orders of Classical Architecture, and by written descriptions or sketches, or by both, give distinctions among them by which they might be severally recognised.

5. Give information respecting the several styles of English Gothic Architecture.

6. Prove that the stiffness of a beam to resist transverse flexure is proportional to the moment of inertia of its cross-section round the neutral axis of the section, and to its modulus of elasticity; or proportional to their product I E.

7. Prove that the strength of rectangular beams to resist set or fracture is proportional to the breadth into the square of the depth, and inversely to the length.

8. Prove that for different beams of the same material and same cross-section, but of different lengths, when fixed at one end and loaded at the other, the deflexions within limits of elasticity are proportional to the cubes of the lengths.

9. State and demonstrate a formula for giving the stiffness of shafts to resist torsion, through any given angle within the range of their elasticity, in terms of their length and diameter, using a letter as a coefficient, dependent on the elasticity of the material.

10. State, according to Hodgkinson's experimental results, how the strength of long columns of cast iron varies with the diameter and length of the column.

SECOND AND THIRD YEAR STUDENTS.

OFFICE AND FIELD WORK.

Note.—Questions 1, 2, 3, 4, 5 and 6, are for Second Year Students only.

1. Explain modes of setting out a perpendicular to a chain line for a long offset.

2. Explain a process (practised in the field in the present Session) for ranging a straight line between two distant points not visible from one another nor from any point in the line between them.

3. Find how many square feet there are in 460 acres, 3 roods, 15 perches, statute measure, and how many in the same number of acres, roods, and perches, Irish.

4. Compute the offset areas shown surveyed in the accompanying field notes.

5. Explain the chief steps in the process of ranging a railway curve by angles at the circumference in cases in which a transversal is used.

6. Explain some of the usual modes of establishing permanent references marks for the course and levels of a railway line, which will be available after excavations and fillings in the line have been proceeded with.

Note.—The following set of questions, from 7 to 12 inclusive, are for both Second and Third Year Students:—

7. Give a formula for checking the measurements of the three sides of a triangle by means of a split line, and the segments of the side which it divides.

8. If a levelling instrument be out of adjustment, its line of collimation

Appendix, No. 8.

General Class Examination.

pointing slightly downwards from the instrument, how will levels, taken up a steep hill by it, be affected by the error of the instrument? To answer this, show whether the height of the hill, deduced as if the instrument were correct, will come out too much or too little.

9. How may the area within the great polygon of a closed traverse survey be computed by the method of making out a "traverse table"?

10. State some of the best modes of plotting a traverse survey.

11. Find, by Sir John Macneill's Tables, and also by Bidder's Table, the quantity of earth in a cutting, of which the length is one chain of 66 feet; base, 30 feet; slopes, 2½ to 1; and the end heights are 18 feet and 22 feet.

12. In the ranging of railway curves, how may the process in any of the ordinary cases be slightly modified, so as to effect the easing off of the transition from the straight line into the curve of the required radius?

Note.—The questions following in this paper are for Third Year Students only:—

13. In drawing a building in perspective, how would you proceed to draw the shadows truly, the direction of the light being given relatively to the building?

14. Having the formula given to you

$$P=\tfrac{2}{3}K'.\frac{bh^2}{l}$$

for the breaking weight P pounds *at middle* of a rectangular beam of length l, breadth b, and depth h, all in inches, and taking K' for Memel fir to be 16,000; compute the breaking load uniformly spread over a floor joist having a span of 26 feet, and having its cross section 14 inches by 2¾ inches.

15. From Woisbach's formula as to the flow of water in round pipes

$$h=\left(\cdot 0144+\frac{\cdot 0172}{\sqrt{v}}\right)\frac{l}{d}.\frac{v^2}{2g}$$

with the notation of which you are supposed to be acquainted; deduce a corresponding formula as to the flow in pipes of rectangular internal cross-section, with sides denoted by a and b.

16. For gauging a stream flowing from a collecting ground of 640 acres, and running the full quantity of water of a rain-fall of half-an-inch per 24 hours, (that is, with deduction or alteration from the actual rain-fall for evaporation, absorption into the ground, or springs from the ground,) what would be the exact width required for an ordinary rectangular notch in a flat board, in order that the water flowing from a still pool might have a depth, from the crest of the notch to the still water level, of 1 foot 3 inches; the Lowell formula being given

$$Q=3\cdot 33\,(L-\tfrac{1}{10}nH)\,H^{\frac{3}{2}}$$

in which Q is in cub. ft. per sec. and dimensions are in ft.

17. If the same flow of water as in the foregoing questions were to be gauged in an ordinary right angled **V** notch, what would be the depth of water from the vertex to the still water level; the formula being given to you

$$Q=\cdot 305\,H^{\frac{5}{2}}$$

in which Q is to be recollected as the quantity per *minute,* and H as stated in *inches?*

Appendix, *No. 8.*

Matriculation Examination.

MATRICULATION EXAMINATION.—OCTOBER, 1864.

MATHEMATICS.—*Examiner, Professor Purser.*

ARITHMETIC.

1. It is a common rule to calculate the rate in miles per hour at which a railway train is moving, to double the number of telegraph posts passed in a minute. If this rule is accurate, calculate the distance between the posts.

2. What rate per cent. will a person receive on his capital who invests in the 3 per cents. at $87\frac{3}{4}$?

3. State and prove the rule for the division of decimals.

Divide to three places of decimals ·349 by 2·51 and 5·07 by ·0034.

4. Calculate to three places of decimals

$$\frac{\sqrt{11}+\sqrt{7}}{\sqrt{11}-\sqrt{7}}$$

5. What is the rent of 107 acres, 3 roods, 19 porches, at £2 7*s.* 6*d.* an acre? 40 perches=1 rood; 4 roods=1 acre.

6. Find the value of $\frac{4}{9}-\frac{2}{5}+\frac{9}{20}-\frac{11}{36}$ and $\dfrac{\frac{7}{20}-\frac{6}{21}}{\frac{9}{28}-\frac{4}{15}}$.

EUCLID.

1. If the angles at the base of a triangle are equal, the triangle is isosceles.

2. If one side of a triangle be produced, the exterior angle is greater than either of the interior remote angles.

3. In an obtuse-angled triangle the square of the side opposite the obtuse angle exceeds the sum of the squares of the sides containing that angle by twice the rectangle under either of them and the interval between the obtuse angle and the foot of the perpendicular let fall upon that side from the opposite angle.

ALGEBRA.

1. Multiply together $x-a$, $x-b$, $x-c$, arranging the result according to powers of x.

2. Divide $x^3+y^3+z^3-3xyz$ by $x+y+z$.

3. Reduce to their simplest forms

$$\frac{x^4-y^4}{(x+y)\,(x^2+y^2)} \text{ and } \frac{1}{x+y+z}\left\{\frac{1}{yz}+\frac{1}{zx}+\frac{1}{xy}\right\}$$

4. Solve the following simple equations:—

$$(\alpha.)\quad \frac{8x-10}{3}+\frac{2(x-7)}{5}=\frac{x}{2}-1$$

$$(\beta.)\quad \frac{80}{3x+2}=\frac{28}{5x-23}$$

$$(\gamma.)\quad \frac{5}{x}+1=\frac{3}{2}\cdot\left(\frac{1}{x}+1\right)$$

$$(\delta.)\quad \sqrt{x+5}+\sqrt{x-4}=1.$$

Appendix, No. 3.

PEEL PRIZES IN GEOMETRY.—*Examiner, Professor Purser.*

Peel Prizes.

1. Triangles upon the same base and between the same parallels are to one another as their bases.

2. Describe a rectilinear figure equal to one given rectilinear figure and similar to another.

3. Draw a line through a given point across the legs of a given angle, so that the product of its segments may be a minimum.

4. Find the locus of a point the square of whose distance from a fixed point bears a constant ratio to its distance from a fixed line.

5. Perpendiculars are dropped from any point in the circumference of a circle upon the sides of an inscribed quadrilateral; prove that the product of the perpendiculars on one pair of opposite sides = the product of the perpendiculars on the other pair.

6. Given base of a triangle and ratio of sides, find locus of vertex.

7. Prove that three times the difference of the squares of two sides of a triangle = four times the difference of the squares of the lines drawn to bisect them from the opposite angles.

8. If the vertices of one triangle lie inside another triangle the perimeter of the first is less than the perimeter of the second.

9. Describe a circle to pass through a given point, to touch a given line, and to touch a given circle.

10. Find the locus of a point such that if perpendiculars be dropped from it on the sides of an equilateral triangle the sum of their squares shall be constant.

SCHOLARSHIP EXAMINATIONS.—OCTOBER, 1864.

Scholarship Examinations.

LITERARY SCHOLARSHIPS.—FIRST YEAR STUDENTS.

GREEK.—*Examiner, Professor MacDouall.*

I.—Translate accurately and perspicuously the annexed extract from XENOPHON'S *Anabasis*:—

οὗτος προσήλασεν ἱππέας ἔχων, καὶ προπέμψας ἑρμηνέα εἶπεν ὅτι βούλοιτο διαλεχθῆναι[1] τοῖς ἄρχουσι. τοῖς δὲ στρατηγοῖς ἔδοξεν ἀκοῦσαι· καὶ προσελθόντες εἰς ἐπήκοον[3] ἠρώτων[1] τί θέλοι.[2] ὁ δὲ εἶπεν ὅτι σπείσασθαι[1] βούλοιτο,[2] ἐφ' ᾧ μήτε αὐτὸς τοὺς Ἕλληνας ἀδικεῖν μήτε ἐκείνους καίειν τὰς οἰκίας λαμβάνειν τε τἀπιτήδεια[3] ὅσων δέοιντο.[2] ἔδοξε ταῦτα τοῖς στρατηγοῖς, καὶ ἐσπείσαντο ἐπὶ τούτοις. . . . . στρατοπεδευομένων δ' αὐτῶν γίγνεται τῆς νυκτὸς χιὼν πολλή· καὶ ἕωθεν[3] ἔδοξε[1] διασκηνῆσαι[1] τὰς τάξεις κατὰ τὰς κώμας·[3] οὐ γὰρ ἑώρων[1] πολέμιον οὐδένα καὶ ἀσφαλὲς[3] ἐδόκει[1] εἶναι διὰ τὸ πλῆθος τῆς χιόνος. ἐνταῦθα εἶχον πάντα ὅσα ἐστὶν ἀγαθά, ἱερεῖα,[3] σῖτον, οἴνους παλαιοὺς εὐώδεις,[3] ἀσταφίδας, ὄσπρια παντοδαπά.[3] τῶν δὲ ἀποσκεδαννυμένων[1] τινὲς ἀπὸ τοῦ στρατοπέδου[3] ἔλεγον ὅτι κατίδοιεν[2] στράτευμα καὶ νύκτωρ[3] πολλὰ πυρὰ φαίνοιτο.[2] ἐδόκει δὴ τοῖς στρατηγοῖς οὐκ ἀσφαλὲς εἶναι διασκηνοῦν,[1] ἀλλὰ συναγαγεῖν[3] τὸ στράτευμα πάλιν. ἐντεῦθεν[3] συνῆλθον· καὶ γὰρ ἐδόκει διαιθριάζειν. νυκτερευόντων[3] δ' αὐτῶν ἐνταῦθα[3] ἐπιπίπτει χιὼν ἄπλετος,[3] ὥστε ἀπέκρυψε καὶ τὰ ὅπλα καὶ τοὺς ἀνθρώπους κατακειμένους καὶ τὰ ὑποζύγια[3] συνεπόδισεν[2] ἡ χιών. καὶ πολὺς ὄκνος ἦν ἀνίστασθαι·[1] κατακειμένων γὰρ ἀλεεινὸν[3] ἦν ἡ χιὼν ἐπιπεπτωκυῖα,[1] ὅτῳ μὴ παραῤῥυείη.[2] ἐπεὶ δὲ Ξενοφῶν ἐτόλμησε[3] γυμνὸς ἀναστὰς σχίζειν ξύλα,[2] Appendix, No. 8. — Scholarship Examinations.

τάχα ἀναστάς[1] τις καὶ ἄλλος ἐκείνου ἀφελόμενος[1] ἔσχιζεν·[1] ἐκ δὲ τούτου καὶ οἱ ἄλλοι ἀναστάντες πῦρ ἔκαιον καὶ ἐχρίοντο·[1] πολὺ γὰρ ἐνταῦθα εὕρισκον χρῖσμα,[3] ᾧ ἐχρῶντο ἀντ' ἐλαίου, σούσινον[3] καὶ σησάμινον[3] καὶ ἀμυγδάλινον[3] ἐκ τῶν πικρῶν καὶ τερεβίνθινον.[3] ἐκ δὲ τῶν αὐτῶν τούτων καὶ μύρον εὑρίσκετο. μετὰ ταῦτα ἐδόκει πάλιν διασκηνητέον[3] εἶναι εἰς τὰς κώμας. ἔνθα δὴ οἱ στρατιῶται σὺν πολλῇ κραυγῇ καὶ ἡδονῇ ᾖεσαν ἐπὶ τὰς στέγας καὶ τὰ ἐπιτήδεια. ὅσοι δέ, ὅτε τὸ πρότερον ἀπῄεσαν,[1] τὰς οἰκίας ἐνέπρησαν,[1] ὑπὸ τῆς αἰθρίας[3] δίκην ἐδίδοσαν[1] κακῶς σκηνοῦντες. ἐντεῦθεν ἔπεμψαν νυκτὸς Δημοκράτην Τεμενίτην ἄνδρας δόντες ἐπὶ τὰ ὄρη ἔνθα ἔφασαν[1] οἱ ἀποσκεδαννύμενοι καθορᾶν τὰ πυρά· οὗτος γὰρ ἐδόκει καὶ πρότερον πολλὰ ἤδη ἀληθεῦσαι[3] τοιαῦτα, τὰ ὄντα τε ὡς ὄντα καὶ τὰ μὴ ὄντα ὡς οὐκ ὄντα.

II.—1. Parse the words to which the figure (1) is attached, and explain the choice between the active and reflexive voices, and also the choice between the aorist, imperfect, and perfect states, which you recognise in each instance.

2. Parse the verbs to which the figure (2) is attached, account for the use of the past subjunctive in every case, and translate each verb in both Latin and English—noting the differences of idiom so exemplified.

3. (*a*) Derive or decompound the words to which the figure (3) is attached, noticing the class of derivatives exemplified in each instance. (*b*) Distinguish between ἀληθεῦσαι and ἀληθεύσαι,—between κώμη, κῶμος, κῶμα, giving derivatives from each,—between ὅπλον and ὁπλή,—between πυρᾰ́ and πυρᾱ́, associating with each its dative singular and plural,—also between πῦρός, πῡρός, πυρρός,—between ἄπλετος, ἄπλατος (or ἄπλητος), ἄπλαστος.

4. Elucidate the idioms exemplified in these combinations: ἐκ τῶν πικρῶν,—ἔφασαν καθορᾶν,—ὅσων δέοιντο,—ἀλεεινὸν ἦν ἡ χιὼν ὅτῳ μὴ παραρρυείη,—ἡ χιὼν ἐπιπεπτωκυῖα (explaining the position of the article),—τὰ μὴ ὄντα ὡς οὐκ ὄντα, (distinguishing the powers of μὴ and οὐκ),—ἐφ' ᾧ μήτε αὐτὸς ἀδικεῖν μήτε ἐκείνους καίειν λαμβάνειν τε (remarking upon three distinct peculiarities).

N.B.—Over α, ι, υ, in whatever words you have occasion to write out, be careful to mark the quantity.

III.—Translate also the following passage from XENOPHON'S *Hellenica*:—

ἀξίαν δὲ καὶ ὅλην τὴν πόλιν ἐν ᾗ ἦν θέας ἐποίησεν· ἥ τε γὰρ ἀγορα ἦν μεστὴ παντοδαπῶν καὶ ἵππων καὶ ὅπλων ὠνίων, οἵ τε χαλκοτύποι καὶ οἱ τέκτονες καὶ οἱ χαλκεῖς καὶ οἱ σκυτοτόμοι καὶ οἱ ζωγράφοι πάντες πολεμικὰ ὅπλα κατεσκεύαζον, ὥστε τὴν πόλιν ὄντως οἴεσθαι πολέμου ἐργαστήριον εἶναι. ἐπερρώσθη δ' ἄν τις καὶ ἐκεῖνο ἰδών, Ἀγησίλαον μὲν πρῶτον, ἔπειτα δὲ καὶ τοὺς ἄλλους στρατιώτας ἐστεφανωμένους ἀπὸ τῶν γυμνασίων ἀπιόντας καὶ ἀνατιθέντας τοὺς στεφάνους τῇ Ἀρτέμιδι. ὅπου γὰρ ἄνδρες θεοὺς μὲν σέβοιντο, τὰ δὲ πολεμικὰ ἀσκοῖεν, πειθαρχεῖν δὲ μελετῷεν, πῶς οὐκ εἰκὸς ἐνταῦθα πάντα μεστὰ ἐλπίδων ἀγαθῶν εἶναι; ἡγούμενος δὲ καὶ τὸ καταφρονεῖν τῶν πολεμίων ῥώμην τινὰ ἐμβάλλειν πρὸς τὸ μάχεσθαι, προεῖπε τοῖς κήρυξι τοὺς ὑπὸ τῶν λῃστῶν ἁλισκομένους βαρβάρους γυμνοὺς πωλεῖν. ὁρῶντες οὖν οἱ στρατιῶται λευκοὺς μὲν διὰ τὸ μηδέποτε ἐκδύεσθαι, μαλακοὺς δὲ καὶ ἀπόνους διὰ τὸ ἀεὶ ἐπ' ὀχημάτων εἶναι, ἐνόμισαν οὐδὲν διοίσειν τὸν πόλεμον ἢ εἰ γυναιξὶ δέοι μάχεσθαι.

Appendix, No. 8.

Scholarship Examinations.

I.—Translate accurately and perspicuously these lines from the Second Book of the *Ilias* :—

καὶ γὰρ ἐγὼν[1] Ἀχιλεύς τε μαχησάμεθ'[1] εἵνεκα[1] κούρης[1]
ἀντιβίοις ἐπέεσσιν,[1] ἐγὼ δ' ἦρχον χαλεπαίνων·
εἰ δέ ποτ' αὖτε[1] μίαν βουλεύσομεν, οὐκέτ' ἔπειτα
Τρωσὶν ἀνάβλησις κακοῦ ἔσσεται[1] οὐδ' ἠβαιόν.[1]
νῦν δ' ἔρχεσθ' ἐπὶ δεῖπνον,[2] ἵνα ξυνάγωμεν Ἄρηα.
εὖ μέν τις δόρυ θηξάσθω, εὖ δ' ἀσπίδα θέσθω,
εὖ δέ τις ἵπποισιν δεῖπνον δότω ὠκυπόδεσσιν,[1]
εὖ δέ τις ἅρματος ἀμφὶ ἰδὼν πολέμοιο μεδέσθω,
ὥς κε πανημέριοι στυγερῷ κρινώμεθ' Ἄρηι.[1]
οὐ γὰρ παυσωλή γε μετέσσεται[1] οὐδ' ἠβαιόν,
εἰ μὴ νὺξ ἐλθοῦσα διακρινέει[1] μένος ἀνδρῶν.
ἱδρώσει μέν τευ[1] τελαμὼν[2] ἀμφὶ στήθεσσιν
ἀσπίδος ἀμφιβρότης,[1] περὶ δ' ἔγχεϊ χεῖρα καμεῖται·
ἱδρώσει δέ τευ ἵππος ἐΰξοον ἅρμα τιταίνων.[1]
ὃν δέ κ' ἐγὼν ἀπάνευθε[1] μάχης ἐθέλοντα νοήσω
μιμνάζειν[1] παρὰ νηυσὶ[1] κορωνίσιν,[2] οὔ οἱ ἔπειτα
ἄρκιον[2] ἐκφυγέειν ἔσσεται κύνας ἠδ' οἰωνούς.
ὣς ἔφατ'· Ἀργεῖοι δὲ μέγ' ἴαχον, ὡς ὅτε κῦμα
ἀκτῇ ἐφ' ὑψηλῇ, ὅτε κινήσῃ Νότος ἐλθών,
προβλῆτι σκοπέλῳ· τὸν δ' οὔ ποτε κύματα λείπει

* * * * *

παντοίων ἀνέμων, ὅτ' ἂν ἔνθ' ἢ ἔνθα γένωνται.
ἀνστάντες[1] δ' ὀρέοντο[1] κεδασθέντες[1] κατὰ νῆας,
κάπνισσάν τε κατὰ κλισίας καὶ δεῖπνον ἕλοντο.
ἄλλος δ' ἄλλῳ ἔρεζε[2] θεῶν αἰειγενετάων[1]
εὐχόμενος θάνατόν τε φυγεῖν καὶ μῶλον Ἄρηος.

* * * * *

βοῦν δὲ περίστησάν[1] τε καὶ οὐλοχύτας[2] ἀνέλοντο.[1]
τοῖσιν δ' εὐχόμενος μετέφη κρείων Ἀγαμέμνων·
"Ζεῦ κύδιστε, μέγιστε, κελαινεφές,[2] αἰθέρι ναίων!
μὴ πρὶν ἐπ' ἠέλιον[1] δῦναι καὶ ἐπὶ κνέφας ἐλθεῖν,
πρίν με κατὰ πρηνὲς βαλέειν Πριάμοιο μέλαθρον
αἰθαλόεν, πρῆσαι δὲ πυρὸς δηΐοιο[1] θύρετρα,
Ἑκτόρεον δὲ χιτῶνα περὶ στήθεσσι δαΐξαι
χαλκῷ ῥωγαλέον· πολέες[1] δ' ἀμφ' αὐτὸν ἑταῖροι
πρηνέες[1] ἐν κονίῃσιν[1] ὀδὰξ λαζοίατο[1] γαῖαν[1]!"
ὣς ἔφατ'[1]· οὐδ' ἄρα πώ οἱ ἐπεκραίαινε[1] Κρονίων,
ἀλλ' ὅ γ' ἔδεκτο[1] μὲν ἱρά, πόνον δ' ἀμέγαρτον[2] ὄφελλεν.[2]

II.—1. Give the Attic form of every word to which the figure (1) is attached.

2. (*a*) Discuss concisely the sense or the derivation of every word to which the figure (2) is attached. (*b*) Replace by Attic synonymes all words (including particles) and phrases, the use of which you believe to be confined to epic or lyric poetry.

3. Note the usage of τις in the 6th line or of τευ in the 12th,—of οἱ in

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the 16th,—of *τὸν* in the 20th,—or of *ὅ γε* in the last, and discriminate it from the usage in Attic.

4. Point out all the examples of *tmesis* found in the extract.

5. Elucidate the contraction of *ἦρχον χαλεπαίνων* (distinguishing *ἠρχόμην χ.*),—of *μίαν βουλεύσομεν* (or, as in the ordinary text, *ἐς μίαν β.*),—of *ὡς ὅτε κῦμα*,—of *ὅτε κινήσῃ*,—of *τοῖσιν μετέφη*,—of *πρῆσαι πυρός*,—of *μὴ πρὶν δῦναι πρὶν βαλέειν*, varied in the subsequent clause *πολέες δὲ λαζοίατο*.

6. How would you seek to obviate any illicit *hiatus* or other metrical difficulty which you may meet with in these lines?

III.—Translate in idiomatic Attic as many of the following sentences as you can, marking the accentuation :—

1. Many fall through not looking forward to what is before them. 2. The king rejoiced in being easy of access. 3. The human being, while young, has his upper limbs larger than his lower ones. 4. We compel each other to do what is just, but we do not choose to do it ourselves. 5. I am desirous to become a pupil of yours. 6. He lent five hundred *drachmae* to his friend upon these slaves. 7. Our city was the first to enact laws and establish a polity. 8. It is time not for deliberating further, but for having done with deliberation. 9. The difficulty of obtaining one's livelihood both breaks off intimacies and turns relationships into hostility. 10. This lady gives out that she is ill spoken of by her neighbour. 11. Private men may contract their expenses as they please, but for despots this is impossible. 11. He would order some one of his principal favourites to take the property of whoever did not repair to court, giving out that he was taking his own.

LATIN.—*Examiner, Professor Nesbitt.*

Translate :—

I.—CICERO—*Pro Milone*, v.

Sequitur illud, quod a Milonis inimicis saepissime dicitur, caedem, in qua P. Clodius occisus est, senatum iudicasse contra rem publicam esse factam. Illam vero senatus non sententiis suis solum, sed etiam studiis comprobavit. Quotiens enim est illa causa a nobis acta in senatu! quibus adsensionibus universi ordinis, quam nec tacitis nec occultis! Quando enim frequentissimo senatu quattuor aut summum quinque sunt inventi qui Milonis causam non probarent? Declarant huius ambusti tribuni plebis illae intermortuae contiones, quibus cotidie meam potentiam invidiose criminabatur, quum diceret senatum non quod sentiret, sed quod ego vellem decernere. Quae quidem si potentia est appellanda potius quam aut propter magna in rem publicam merita mediocris in bonis causis auctoritas aut propter hos officiosos labores meos non nulla apud bonos gratia, appelletur ita sane, dum modo ea nos utamur pro salute bonorum contra amentiam perditorum. Hanc vero quaestionem, etsi non est iniqua, numquam tamen senatus constituendam putavit. Erant enim leges, erant quaestiones vel de caede vel de vi, nec tantum maerorem ac luctum senatui mors P. Clodii adferebat, ut nova quaestio constitueretur. Cuius enim de illo incesto stupro iudicium decernendi senatui potestas esset erepta, de eius interitu quis potest credere senatum iudicium novum constituendum putasse?

(*a.*) Explain the allusions in "*ambusti tribuni—contiones*," and "*de illo incesto stupro*."

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(*b.*) Give a brief statement of the facts necessary to an understanding of this oration. Under what law was Milo arraigned? What deviation was made from the ordinary mode of procedure?

II.—Cicero—*Cato Major*, xv.

Venio nunc ad voluptates agricolarum quibus ego incredibiliter delector, quae nec ulla impediuntur senectute et mihi ad sapientis vitam proxime videntur accedere. Habent enim rationem cum terra, quae numquam recusat imperium nec umquam sine usura reddit quod accepit, sed alias minore plerumque maiore cum fenore. Quamquam me quidem non fructus modo, sed etiam ipsius terrae vis ac natura delectat. Quae quum gremio mollito ac subacto sparsum semen excepit, primum id occaecatum cohibet, ex quo 'occatio' quae hoc efficit nominata est, deinde tepefactum vapore et compressu suo diffindit et elicit herbescentem ex eo viriditatem, quae nixa fibris stirpium sensim adolescit culmoque erecta geniculato vaginis iam quasi pubescens includitur, e quibus quum emersit, fundit frugem spici ordine structam et contra avium minorum morsus munitur vallo aristarum. Quid ego vitium ortus, satus, incrementa commemorem? Satiari delectatione non possum, ut meae senectutis requietem oblectamentumque noscatis. Omitto enim vim ipsam omnium, quae generantur e terra, quae ex fici tantulo grano aut ex acini vinaceo aut ex caeterarum frugum ac stirpium minutissimis seminibus tantos truncos ramosque procreet: malleoli, plantae, sarmenta, viviradices, propagines nonne ea efficiunt, ut quemvis cum admiratione delectent?

III.—Livy, xxv., 33.

Hasdrubal postquam animadvertit exiguum Romanum exercitum in castris et spem omnem in Celtiberorum auxiliis esse, peritus omnis barbaricae et praecipue omnium earum gentium, in quibus per tot annos militabat, perfidiae, facili linguae commercio, cum utraque castra plena Hispanorum essent, per occulta colloquia paciscitur magna mercede cum Celtiberorum principibus, ut copias inde abducant. nec atrox visum facinus; non enim ut in Romanos verterent arma agebatur; et merces, quanta vel pro bello satis esset, dabatur, ne bellum gererent; et cum quies ipsa tum reditus domum fructusque videndi suos suaque grata vulgo erant. itaque non ducibus facilius quam multitudini persuasum est. simul ne metus quidem ab Romanis erat, quippe tam paucis, si vi retinerent. id quidem cavendum semper Romanis ducibus erit exemplaque haec vere pro documentis habenda, ne ita externis credant auxiliis, ut non plus sui roboris suarumque proprie virium in castris habeant. signis repente sublatis Celtiberi abeunt, nihil aliud quaerentibus causam obtestantibusque, ut manerent, Romanis respondentes quam domestico se avocari bello.

Describe briefly the constitution of the Roman army in the earlier and the later times of the Republic.

Translate into Latin prose:—

Nothing was to be seen within the walls but consternation and despair. The temples of the gods were filled with supplicants; the plebeians themselves pressed the senate to make peace with the terrible Coriolanus. Meantime the enemy advanced to the very gates of the city; and at length the senate agreed to send five men, chiefs among the patricians, to turn away the anger of their countryman. He received them with the utmost sternness;—said that he was now General of the Volscians, and must do what was best for his new friends; that if they wished for peace, they must restore all the lands and places that had been taken from the Volscians, and must admit the people to an equal league, and put them on an equal footing with the Latins. The deputies could not accept these terms, so they returned to Rome. The senate sent them back to ask for milder terms; but the haughty exile would not suffer them to enter his camp.

Translate :—

I.—Horace—*Epodes*, xvi., 39, *sqq.*

Vos, quibus est virtus, muliebrem tollite luctum,
  Etrusca praeter et volate litora!
Nos manet Oceanus circumvagus: arva, beata
  Petamus arva divites et insulas,
Reddit ubi cererem tellus inarata quotannis
  Et imputata floret usque vinea,
Germinat et nunquam fallentis termes olivae
  Suamque pulla ficus ornat arborem,
Mella cava manant ex ilice, montibus altis
  Levis crepante lympha desilit pede.
Illic iniussae veniunt ad mulctra capellae
  Refertque tenta grex amicus ubera,
Nec vespertinus circumgemit ursus ovile,
  Neque intumescit alta viperis humus.
Pluraque felices mirabimur, ut neque largis
  Aquosus Eurus arva radat imbribus,
Pinguia nec siccis urantur semina glebis,
  Utrumque rege temperante coelitum.
Non huc Argoo contendit remige pinus,
  Neque impudica Colchis intulit pedem;
Non huc Sidonii torserunt cornua nautae
  Laboriosa nec cohors Ulixei.
Nulla nocent pecori contagia, nullius astri
  Gregem aestuosa torret impotentia.
Iuppiter illa piae secrevit litora genti,
  Ut inquinavit aere tempus aureum,
Aere, dehinc ferro duravit saecula, quorum
  Piis secunda vate me datur fuga.

Write brief notes where you deem it necessary. What is the metre of the epode?

II.—Virgil—*Bucol.*, iv., 34–59.

Alter erit tum Tiphys, et altera quae vehat Argo
Delectos heroas; erunt etiam altera bella,
Atque iterum ad Troiam magnus mittetur Achilles.
Hinc, ubi iam firmata virum te fecerit aetas,
Cedet et ipse mari vector, nec nautica pinus
Mutabit merces: omnis feret omnia tellus.
Non rastros patietur humus, non vinea falcem;
Robustus quoque iam tauris iuga solvet arator;
Nec varios discet mentiri lana colores,
Ipse sed in pratis aries iam suave rubenti
Murice, iam croceo mutabit vellera luto;
Sponte sua sandyx pascentes vestiet agnos.

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"Talia saecla," suis dixerunt, "currite," fusis
Concordes stabili fatorum numine Parcae.
Aggredere o magnos—aderit iam tempus—honores,
Cara deûm suboles, magnum Iovis incrementum !
Adspice convexo nutantem pondere mundum,
Terrasque tractusque maris coelumque profundum,
Adspice, venturo laetantur ut omnia saeclo !
O mihi tam longae maneat pars ultima vitae,
Spiritus et, quantum sat erit tua dicere facta :
Non me carminibus vincet nec Thracius Orpheus
Nec Linus ; huic mater quamvis atque huic pater adsit,
Orphei Calliopea, Lino formosus Apollo.
Pan etiam, Arcadia mecum si iudice certet,
Pan etiam Arcadia dicat se iudice victum.

Write brief notes on the following expressions ;—

(*a.*) *Alter erit Tiphys.*
(*b.*) *Mentiri colores.*
(*c.*) *Jovis incrementum.*
(*d.*) *Convexo nutantem pondere mundum.*
(*e.*) *Huic—atque huic.*

III.—VIRGIL—*Æneid*, viii., 704–729.

Actius haec cernens arcum intendebat Apollo
Desuper : omnis eo terrore Aegyptus et Indi,
Omnis Arabs, omnes vertebant terga Sabaei ;
Ipsa videbatur ventis regina vocatis
Vela dare, et laxos iam iamque immittere funes.
Illam inter caedes pallentem morte futura
Fecerat ignipotens undis et Iapyge ferri
Contra autem magno maerentem corpore Nilum,
Pandentemque sinus et tota veste vocantem
Caeruleum in gremium latebrosaque flumina victos.
At Caesar, triplici invectus Romana triumpho
Moenia, dîs Italis votum immortale sacrabat,
Maxima tercentum totam delubra per Urbem.
Laetitia ludisque viae plausuque fremebant ;
Omnibus in templis matrum chorus, omnibus arae ;
Ante aras terram caesi stravere iuvenci.
Ipse, sedens niveo candentes limine Phoebi,
Dona recognoscit populorum, aptatque superbis
Postibus : incedunt victae longo ordine gentes,
Quam variae linguis, habitu tam vestis et armis.
Hic Nomadum genus et discinctos Mulciber Afros,
Hic Lelegas Carasque sagittiferosque Gelonos
Finxerat ; Euphrates ibat iam mollior undis,
Extremique hominum Morini, Rhenusque bicornis,
Indomitique Dahae, et pontem indignatus Araxes.

(*a.*) What probably suggested the image in the first line ?
(*b.*) What were the occasions of Augustus' *triple* triumph ?
(*c.*) Explain the geographical and historical allusions in the last sentence.

Give a brief sketch of the life of Virgil, fixing, so far as they have been ascertained, the dates of his several works.

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GRAMMATICAL QUESTIONS.

1. Distinguish the meaning of the following words when used in the singular, and when used in the plural :—*ædes, aqua, carcer, gratia, rostrum, tabula.*

2. Form phrases illustrating the use of the following words :—*dicis, derisui, infitias, venum.*

3. Give examples of the various forms of the genitive case of the fifth declension.

4. Enumerate the nouns which change wholly or partially in the plural the gender which they have in the singular.

5. Distinguish *uter, uterque, utervis; alter, alius, cæteri; quisquam, quisnam, quivis, quicunque.*

6. Give the Latin notation for the numbers from 100 to 10,000. Express in Latin—"Cæsar took 5,304 Gauls ;" and, "These events took place in 1864."

7. Give the principal tenses of *desino* (inflect the perfect), *ferveo, pango, indulgeo, scindo, arcesso, meto, coalesco, resipisco, lino, sero;* noting cases where diversity of form indicates diversity of meaning, and marking the quantity of doubtful syllables.

8. There are two classes of inchoative verbs: give examples of each.

9. What are neuter-passive and impersonal verbs, and why so called? Give instances of each.

HISTORY AND THE ENGLISH LANGUAGE.—*Examiner, Professor Craik.*

ENGLISH.

1. Describe briefly, but clearly, what we owe :—1. To Speech ; 2. To Writing ; 3. To Printing.

2. Compare the Grammar of the English language, in its general character, with that of either the Latin or the Greek.

3. Give an account of the modern system of Spelling in English, illustrating its peculiarities by examples.

4. Explain the use and importance of Punctuation.

5. Relate the story of the Conquest of England by William the Norman.

6. Sketch rapidly, but distinctly, *any one* of the following battles :—Marathon, Thermopylae, Salamis, Plataea, the Granicus (not forgetting the date).

N.B.—Every Answer must be so expressed as to be a complete statement in itself, or intelligible without reference to the Question ; and Punctuation, as well as Spelling and Grammar, must be carefully attended to throughout.

SECOND YEAR STUDENTS.

GREEK.—*Examiner, Professor MacDouall.*

I.—Translate clearly and elegantly these lines from the XIXth Book of the *Ilias* :—

"Ὦ φίλοι ἥρωες Δαναοί, θεράποντες Ἄρηος ![1]
ἑσταότος[1] μὲν καλὸν ἀκουέμεν,[1] οὐδὲ ἔοικεν
ὑββάλλειν·[1] χαλεπὸν γὰρ ἐπισταμένῳ[1] περ ἐόντι.
ἀνδρῶν δ' ἐν πολλῷ ὁμάδῳ πῶς κέν[1] τις ἀκούσαι
ἢ εἴποι ; βλάβεται[1] δὲ λιγύς περ ἐών[1] ἀγορητής.

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Πηλείδῃ μὲν ἐγὼν ἐνδείξομαι· αὐτὰρ οἱ ἄλλοι
σύνθεσθ' Ἀργεῖοι, μῦθόν τ' εὖ γνῶτε ἕκαστος.
πολλάκι δή μοι τοῦτον Ἀχαιοὶ μῦθον ἔειπον,
καί τέ[1] με νεικείεσκον·[1] ἐγὼ δ' οὐκ αἴτιός εἰμι,
ἀλλὰ Ζεὺς καὶ Μοῖρα καὶ ἠεροφοῖτις Ἐρινύς,
οἵ τε[1] μοι εἰν ἀγορῇ φρεσὶν ἔμβαλον ἄγριον ἄτην
ἤματι[1] τῷ ὅτ' Ἀχιλλῆος γέρας αὐτὸς ἀπηύρων.[1]
ἀλλὰ τί κε ῥέξαιμι;[1] θεὸς διὰ πάντα τελευτᾷ.
πρέσβα[1] Διὸς θυγάτηρ Ἄτη, ἣ πάντας ἀᾶται,[1]
οὐλομένη.[1] τῆς μέν θ'[1] ἁπαλοὶ πόδες· οὐ γὰρ ἐπ' οὔδει
πίλναται,[1] ἀλλ' αὕτη γε κατ' ἀνδρῶν κράατα[1] βαίνει
καὶ γὰρ δή νύ ποτε Ζῆν'[1] ἄσατο,[1] τόν[1] περ ἄριστον[1]
ἀνδρῶν ἠδὲ[1] θεῶν φάσ' ἔμμεναι·[1] ἀλλ' ἄρα καὶ τὸν[1]
Ἥρη θῆλυς ἐοῦσα δολοφροσύνῃς[1] ἀπάτησεν
ἤματι τῷ ὅτ' ἔμελλε βίην Ἡρακληείην[1]
Ἀλκμήνη τέξεσθαι ἐϋστεφάνῳ ἐνὶ Θήβῃ.
ἤ τοι ὅγ' εὐχόμενος μετέφη πάντεσσι[1] θεοῖσιν·
'κέκλυτέ[1] μευ, πάντες τε θεοὶ πᾶσαί τε θέαιναι!
ὡς εἴπω τά με θυμὸς ἐνὶ στήθεσσιν ἀνώγει.
σήμερον ἄνδρα φάοσδε[1] μογοστόκος Εἰλείθυια
ἐκφανεῖ, ὃς πάντεσσι περικτιόνεσσι ἀνάξει.
τῶν ἀνδρῶν γενεῆς οἵθ' αἵματος ἐξ ἐμεῦ εἰσίν.'
τὸν δὲ δολοφρονέουσα προσηύδα[1] πότνια[1] Ἥρη.
'ψεύστης εἶς,[1] οὐδ' αὖτε τέλος μύθῳ ἐπιθήσεις.
εἰ δ', ἄγε νῦν μοι ὄμοσσον,[1] Ὀλύμπιε! καρτερὸν[1] ὅρκον,
η μὴν τὸν πάντεσσι περικτιόνεσσι ἀνάξειν,
ὅς κεν ἐπ' ἤματι τῷδε πέσῃ μετὰ ποσσὶ γυναικός,
τῶν ἀνδρῶν γενεῆς οἵ θ' αἵματος ἐκ σέθεν[1] εἰσίν.'"

II.—1. Parse fully and accurately the words thus numbered, and give the Attic form or else the Attic representative of each.

2. Restore in case of every illicit *hiatus*, such letters as ϝ, σ, λ, which still belonged to certain words in the Homeric age.

3. Point out any constructions which are inadmissible in Attic.

4. Discuss the word ἄτη with its cognates, and also the ideas involved in it.

III.—Translate also the following epigram:—

ποίην τις βιότοιο τάμῃ τρίβον; εἰν ἀγορῇ μὲν
νείκεα καὶ χαλεπαὶ πρήξιες, ἐν δὲ δόμοις
φροντίδες, ἐν δ' ἀγροῖς καμάτων ἅλις, ἐν δὲ θαλάσσῃ,
τάρβος, ἐπὶ ξείνης δ', ἢν μὲν ἔχῃς τι, δέος,
ἢν δ' ἀπορῇς ἀνιηρόν. ἔχεις γάμον; οὐκ ἀμέριμνος
ἔσσεαι· οὐ γαμέεις; ζήσῃ ἐρημότερος.
τέκνα πόνοι· πήρωσις ἄπαις βίος. αἱ νεότητες
ἄφρονες, αἱ πολιαὶ δ' ἔμπαλιν ἀδρανέες.
ἦν ἄρα τοῖνδε δυοῖν ἑνὸς αἵρεσις, ἢ τὸ γενέσθαι
μηδέποτ' ἢ τὸ θανεῖν αὐτίκα τικτόμενον.

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Scholarship Examinations.

I.—Translate perspicuously the following extract from the *Phaedon* of Platon :—

"Πέπεισμαι τοίνυν," ἦ δ᾽ ὅς, "ἐγώ, ὡς πρῶτον μέν, εἰ ἔστιν [ἡ γῆ] ἐν μέσῳ τῷ οὐρανῷ περιφερὴς οὖσα, μηδὲν αὐτῇ δεῖν μήτε ἀέρος πρὸς τὸ μὴ πεσεῖν μήτε ἄλλης ἀνάγκης μηδεμιᾶς τοιαύτης, ἀλλὰ ἱκανὴν εἶναι αὐτὴν ἴσχειν τὴν ὁμοιότητα τοῦ οὐρανοῦ αὐτοῦ ἑαυτῷ πάντῃ καὶ τῆς γῆς αὐτῆς τὴν ἰσοῤῥοπίαν· ἰσόῤῥοπον γάρ πρᾶγμα ὁμοίου τινὸς ἐν μέσῳ τεθὲν οὐχ ἕξει μᾶλλον οὐδ᾽ ἧττον οὐδαμόσε κλιθῆναι, ὁμοίως δ᾽ ἔχον ἀκλινὲς μενεῖ. .πρῶτον μὲν τοίνυν," ἦ δ᾽ ὅς "τοῦτο πέπεισμαι." "καὶ ὀρθῶς γε," ἔφη ὁ Σιμίας. "ἔτι τοίνυν," ἔφη, "πάμμεγά τι εἶναι αὐτό, καὶ ἡμᾶς οἰκεῖν τοὺς μέχρι Ἡρακλείων Στηλῶν ἀπὸ Φάσιδος ἐν σμικρῷ τινι μορίῳ, ὥςπερ περὶ τέλμα βατράχους ἢ μύρμηκας, περὶ τὴν θάλατταν οἰκοῦντας, καὶ ἄλλους ἄλλοθι πολλοὺς ἐν πολλοῖς τοιούτοις τόποις οἰκεῖν. εἶναι γὰρ πανταχῇ περὶ τὴν γῆν πολλὰ κοῖλα καὶ παντοδαπὰ καὶ τὰς ἰδέας καὶ τὰ μεγέθη, εἰς ἃ ξυνεῤῥυηκέναι τό τε ὕδωρ καὶ τὴν ὁμίχλην καὶ τὸν ἀέρα· αὐτὴν δὲ τὴν γῆν καθαρὰν ἐν καθαρῷ κεῖσθαι τῷ οὐρανῷ, ἐν ᾧπερ ἔστι τὰ ἄστρα, ὃν δὴ 'αἰθέρα' ὀνομάζειν τοὺς πολλοὺς τῶν περὶ τὰ τοιαῦτα εἰωθότων λέγειν· οὗ δὴ ὑποστάθμην ταῦτα εἶναι καὶ ξυῤῥεῖν ἀεὶ εἰς τὰ κοῖλα τῆς γῆς. ἡμᾶς οὖν οἰκοῦντας ἐν τοῖς κοίλοις αὐτῆς λεληθέναι καὶ οἴεσθαι ἄνω ἐπὶ τῆς γῆς οἰκεῖν, ὥςπερ ἂν εἴ τις ἐν μέσῳ τῷ πυθμένι τοῦ πελάγους οἰκῶν οἴοιτό τε ἐπὶ τῆς θαλάττης οἰκεῖν καὶ διὰ τοῦ ὕδατος ὁρῶν τὸν ἥλιον καὶ τὰ ἄλλα ἄστρα τὴν θάλατταν ἡγοῖτο οὐρανὸν εἶναι, διὰ δὲ βραδυτῆτά τε καὶ ἀσθένειαν μηδεπώποτε ἐπὶ τὰ ἄκρα τῆς θαλάττης ἀφιγμένος μηδὲ ἑωρακὼς εἴη, ἐκδὺς καὶ ἀνακύψας ἐκ τῆς θαλάττης εἰς τὸν ἐνθάδε τόπον, ὅσῳ καθαρώτερος καὶ καλλίων τυγχάνει ὢν τοῦ παρὰ σφίσι, μηδὲ ἄλλου ἀκηκοὼς εἴη τοῦ ἑωρακότος. ταὐτὸν δὴ τοῦτο καὶ ἡμᾶς πεπονθέναι· οἰκοῦντας γὰρ ἔν τινι κοίλῳ τῆς γῆς οἴεσθαι ἐπάνω αὐτῆς οἰκεῖν, καὶ τὸν ἀέρα 'οὐρανὸν' καλεῖν, ὡς διὰ τούτου οὐρανοῦ ὄντος τὰ ἄστρα χωροῦντα, ὑπ᾽ ἀσθενείας δὲ καὶ βραδυτῆτος οὐχ οἵους τε εἶναι ἡμᾶς διεξελθεῖν ἐπ᾽ ἔσχατον τὸν ἀέρα· ἐπεί, εἴ τις αὐτοῦ ἐπ᾽ ἄκρα ἔλθοι ἢ πτηνὸς γενόμενος ἀνάπτοιτο, κατιδεῖν ἂν ἀνακύψαντα, ὥςπερ ἐνθάδε οἱ ἐκ τῆς θαλάττης ἰχθύες ἀνακύπτοντες ὁρῶσι τὰ ἐνθάδε, οὕτως ἄν τινα καὶ τὰ ἐκεῖ κατιδεῖν, καί, εἰ ἡ φύσις ἱκανὴ εἴη ἀνέχεσθαι θεωροῦσα, γνῶναι ἄν, ὅτι ἐκεῖνός ἐστιν ὁ ἀληθῶς οὐρανὸς καὶ τὸ ἀληθῶς φῶς καὶ ἡ ὡς ἀληθῶς γῆ. ἥδε μὲν γαρ ἡ γῆ καὶ οἱ λίθοι καὶ ἅπας ὁ τόπος ὁ ἐνθάδε διεφθαρμένα ἐστὶ καὶ καταβεβρωμένα, ὥςπερ τὰ ἐν τῇ θαλάττῃ ὑπὸ τῆς ἅλμης. καὶ οὔτε φύεται οὐδὲν ἄξιον λόγου ἐν τῇ θαλάττῃ, οὔτε τέλειον (ὡς ἔπος εἰπεῖν) οὐδέν ἐστι, σήραγγες δὲ καὶ ἄμμος καὶ πηλὸς ἀμήχανος καὶ βόρβοροί εἰσιν, ὅπου ἂν καὶ γῆ ᾖ, καὶ πρὸς τὰ παρ᾽ ἡμῖν κάλλη κρίνεσθαι οὐδ᾽ ὁπωστιοῦν ἄξια. ἐκεῖνα δὲ αὖ τῶν παρ᾽ ἡμῖν πολὺ ἂν ἔτι πλέον φανείη διαφέρειν."

II. 1. Point out and correct various *anakoloutha*—incongruities of construction and redundancies of expression—in the above sentences.

2. Notice such early cosmical speculations as are recognisable in the passage; especially in reference to the centre of the Universe—whether the Earth or some other body, and whether rotatory or immovable.

3. Notice also early geognostic views; especially in reference to various sea-basins, the relation of the Mediterranean Sea to the Ocean-stream, the western and eastern boundaries of the Mediterranean, the number and names of the Continents, &c.

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4. You may likewise discuss historically the sense attached, by different writers, or in different schools, to such terms as *οὐρανός, αἰθηρ, ὄλυμπος, κόσμος, ἡ οἰκουμένη.*

III.—Retranslate these sentences from the *Cyropaedeia* :—

All these nations did Cyrus control though differing in speech both from him and from each other. And over such an extent of territory reached the terror of his name, so that all were overawed and no one stirred against him: such was the desire of conciliating him which he was able to inspire, so that all were eager to be regulated in every matter by his will: so many tribes did he reduce to dependence in every direction from his court—East and West, North and South. Him then, being well fitted to excite admiration, we made an object of study, inquiring what was his lineage, what his natural endowments, and what his education, that he was so distinguished in the art of governing men. And the facts which we ascertained and the conclusions at which we have arrived respecting him we shall now attempt to set forth.

LATIN.—*Examiner, Professor Nesbitt.*

Translate :—

I.—CICERO—*De Lege Agraria*, ii. 34.

Et quoniam Bruti atque illius temporis feci mentionem, commemorabo id, quod egomet vidi, quum venissem Capuam, coloniam deductam L. Considio et Sex. Saltio, quem ad modum ipsi loquebantur, praetoribus: ut intelligatis quantam locus ipse adferat superbiam, quae paucis diebus, quibus illa colonia deducta est, perspici atque intelligi potuit. Nam primum, id quod dixi, quum caeteris in coloniis duumviri appellentur, hi se praetores appellari volebant. Quibus primus annus hanc cupiditatem attulisset, nonne arbitramini paucis annis fuisse consulum nomen appetituros? Deinde anteibant lictores, non cum baculis, sed, ut hic praetoribus urbanis anteeunt, cum fascibus duobus. Erant hostiae maiores in foro constitutae, quas ab his praetoribus de tribunali, sicut a nobis consulibus, de consilii sententia probatae, ad praeconem et ad tibicinem immolabantur. Deinde patres conscripti vocabantur. Iam vero vultum Considii videre ferundum vix erat. Quem hominem vegrandi macie torridum, Romae contemptum, abiectum videbamus, hunc Capuae Campano supercilio ac regio spiritu quum videremus, Blossios mihi videbar illos videre ac Iubellios. Iam vero qui metus erat tunicatorum illorum? et in Albana et Seplasia quae concursatio percunctantium quid praetor edixisset, ubi coenaret, quo denunciasset. Nos autem, qui hinc Roma veneramus, iam non hospites, sed peregrini atque advenae nominabamur.

A.—(*a.*) The assumption of state by the duumviri of Capua is illustrated by a similar case mentioned by Horace: cite the passage. A various reading has been based upon it?

(*b.*) Write brief notes on the following expressions :—*de consilii sententia—hostiae majores—ad praeconem et ad tibicinem—vegrandi macie.*

(B.)—Describe briefly the system of Roman colonization. Explain accurately the terms, *assignatio* and *possessio.* Enumerate with dates, the principal agrarian laws proposed under the republic; state what was common to them all; and mention the provisions of the law of Rullus, against which Cicero's orations *De Lege Agraria* were delivered.

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Scholarship Examinations.

II.—LIVY, xxii., 54.

Romam ne has quidem reliquias superesse civium sociorumque, sed occidione occisum consulem utrumque cum duobus exercitibus deletasque omnes copias adlatum fuerat. nunquam salva urbe tantum pavoris tumultusque intra moenia Romana fuit. itaque succumbam oneri, neque adgrediar narrare quae edissertando minora vero faciam. consule exercituque ad Trasumennum priore anno amisso non vulnus super vulnus, sed multiplex clades—cum duobus consulibus duo consulares exercitus amissi nuntiabantur, nec ulla iam castra Romana nec ducem nec militem esse, Hannibalis Apuliam Samnium ac iam prope totam Italiam factam. nulla profecto alia gens tanta mole cladis non obruta esset. compares cladem ad Aegates insulas Carthaginiensium proelio navali acceptam, qua fracti Sicilia ac Sardinia cessere, inde vectigalis ac stipendiarios fieri se passi sunt; aut pugnam adversam in Africa, cui postea hic ipse Hannibal succubuit: nulla ex parte comparandae sunt, nisi quod minore animo latae sunt.

(*a.*) Distinguish between *vectigales* and *stipendiarii*. Explain, with dates, the historical allusions.

(*b.*) Trace the course of Hannibal's march from New Carthage to Cannæ, describing the events by which it was marked. What effect had the battle of Cannæ on the inhabitants of Southern Italy?

Translate into Latin prose:—

In far different plight and with far other feelings then they had entered the pass of Caudium, did the Roman army issue out from it again on the plain of Campania. Defeated and disarmed, they knew not what reception they might meet with from their Campanian allies: it was possible that Capua might shut her gates against them, and go over to the victorious enemy. But the Campanians behaved faithfully and generously; they sent supplies of arms, of clothing, and of provisions to meet the Romans before they arrived at Capua; they sent new cloaks, and the lictors and fasces of their own magistrates, to enable the consuls to resume their fitting state; and when the army approached their city, the senate and people went out to meet them, and welcomed them both individually and publicly with the greatest kindness. No attention, however, could soothe the wounded pride of the Romans: they could not bear to raise their eyes from the ground nor to speak to any one: full of shame they continued their march to Rome; when they came near to it, all those soldiers who had a home in the country dispersed and escaped to their several houses singly and silently; while those who lived in Rome lingered without the walls till the sun was set, and stole to their houses under cover of the darkness. The consuls were obliged to enter the city publicly and in the light of the day, but they looked upon themselves as no longer worthy to be the chief magistrates of Rome, and they shut themselves up at home in privacy.—ARNOLD.

Translate:—

I.—HORACE—*Epistles*, i., 12.

Fructibus Agrippae Siculis, quos colligis, Icci,
Si recte frueris, non est ut copia maior
Ab Iove donari possit tibi. Tolle querelas:
Pauper enim non est, cui rerum suppetit usus.
Si ventri bene, si lateri est pedibusque tuis, nil
Divitiae poterunt regales addere maius.

Si forte, in medio positorum abstemius, herbis
Vivis et urtica, sic vives protinus, ut te
Confestim liquidus fortunae rivus inauret,
Vel quia naturam mutare pecunia nescit,
Vel quia cuncta putas una virtute minora.
Miramur, si Democriti pecus edit agellos
Cultaque, dum peregre est animus sine corpore velox;
Cum tu inter scabiem tantam et contagia lucri
Nil parvum sapias et adhuc sublimia cures:
Quae mare compescant causae, quid temperet annum,
Stellae sponte sua iussaene vagentur et errent,
Quid premat obscurum Lunae, quid proferat orbem,
Quid velit et possit rerum concordia discors,
Empedocles an Stertinium deliret acumen?
Verum seu pisces seu porrum et caepe trucidas,
Utere Pompeio Grospho et, si quid petet, ultro
Defer: nil Grosphus nisi verum orabit et aequum.
Vilis amicorum est annona, bonis ubi quid deest.
Ne tamen ignores, quo sit Romana loco res;
Cantaber Agrippae, Claudi virtute Neronis
Armenius cecidit; ius imperiumque Phraates
Caesaris accepit genibus minor; aurea fruges
Italiae pleno defundit Copia cornu.

(*a.*) The scholiasts have identified the person here addressed with the Iccius to whom one of the Odes is ascribed; cite the first verse of the Ode.

(*b.*) Illustrate the following expressions:—*non est ut—in medio positorum—nil parvum sapias—sublimia cures—Stertinium acumen.*

(*c.*) Point out the logical connexion in the passage "*miramur . . . cures;*" and give the meaning of the proverb, "*vilis amicorum, etc.*" *Ut te . . . inauret*"—Horace has elsewhere placed this image in the same context with an allusion to the Pythagorean philosophy.

(*d.*) Explain the allusion in "*concordia discors;*" and paraphrase the verse "*Empedocles . . . acumen.*"

(*e.*) Explain the historical allusions in the last passage.

II.—Porrum et cepe nefas violare ac frangere morsu.
O sanctae gentes, quibus haec nascuntur in hortis
Numina! lanatis animalibus abstinet omnis
Mensa, nefas illic fetum iugulare capellae:
Carnibus humanis vesci licet. Attonito quum
Tale super coenam facinus narraret Ulixes
Alcinoo, bilem aut risum fortasse quibusdam
Moverat, ut mendax aretalogus. In mare nemo
Hunc abicit, saeva dignum veraque Charybdi,
Fingentem immanes Laestrygonas et Cyclopas?
Nam citius Scyllam vel concurrentia saxa
Cyaneis, plenos et tempestatibus utres
Crediderim, aut tenui percussum verbere Circes
Et cum remigibus grunnisse Elpenora porcis.

From what author is this passage taken? Explain briefly the mythical allusions.

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Scholarship Examinations.

III.—Ovid—*Fasti*, i., 559–585.

Servata male parte boum Jove natus abibas:
  Mugitum rauco furta dedere sono.
Accipio revocamen, ait; vocemque secutus
  Impia per sylvas ultor ad antra venit.
Ille aditum fracti præstruxerat objice montis:
  Vix juga movissent quinque bis illud opus.
Nititur hic humeris (cœlum quoque sederat illis)
  Et vastum motu collabefactat onus.
Quod simul evulsum est, fragor æthera terruit ipsum;
  Ictaque subsedit pondere molis humus.
Prima movet Cacus collata prælia dextra;
  Remque ferox saxis stipitibusque gerit.
Quis ubi nil agitur; patrias male fortis ad artes
  Confugit, et flammas ore sonante vomit.
Quas quoties proflat, spirare Typhoëa credas,
  Et rapidum Ætnæo fulgur ab igne jaci.
Occupat Alcides, adductaque clava trinodie
  Ter quater adversi cedit in ore viri.
Ille cadit, mixtosque vomit cum sanguine fumos,
  Et lato moriens pectore plangit humum.
Immolat ex illis taurum tibi, Jupiter, unum
  Victor, et Evandrum ruricolasque vocat:
Constituitque sibi, quæ Maxima dicitur, aram,
  Hic ubi pars Urbis de bove nomen habet.
Nec tacet Evandri mater, prope tempus adesse,
  Hercule quo tellus sit satis usa suo.
At felix vates, ut Dis gratissima vixit,
  Possidet hunc Jani sic Dea mense diem.

(*a.*) With what Grecian legend is the story of Cacus obviously connected? Point out any forms of expression which recall Virgil's description. Explain the topographical allusion in the verse—"*Hic ubi*," etc.

(*b.*) "Quem tamen esse Deum te dicam, Jane biformis?
  Nam tibi par nullum Græcia numen habet."

Mention other Latin deities who have no counterpart in the Greek mythology.

History and English Literature.—*Examiner, Professor Craik.*

ENGLISH.

1. When and by whom was the English Language imported into Britain?

2. To what family of languages, to what branch, and to what subdivision of the branch, does it belong?

3. What do we find the character of its grammar and the constitution of its vocabulary to have been in its original form (or the earliest in which we have any knowledge of it)?

4. Passing over any partial modification it may have received from the settlement of the Danes in some parts of the country, what was the *first* general revolution which it underwent, and when and how was it brought about?

5. What was the *second* revolution which it underwent, and when and how was that brought about?

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Scholarship Examinations.

6. *Every* competitor will write a short but careful Essay on *any one* of the following subjects :—

How a language is usually converted from one form into another ;
The only way in which one language can, in a particular population, take the place of another (as, for instance, English of Irish) ;
The pleasure derived from verse ;
An account of an English book which the writer has read.

N.B.—Every Answer must be so expressed as to be a complete statement in itself, or intelligible without reference to the Question ; and Punctuation, as well as Spelling and Grammar, must be carefully attended to throughout.

MODERN LANGUAGES.—*Examiner, Professor Frädersdorff.*

SENIOR AND JUNIOR STUDENTS.

*** Senior Scholarship Students are expected to do one of the papers fully (French or German), and moreover engage upon the *second.* To *Junior Scholarship* Students the choice is left between either paper.

PHILOLOGICAL AND LITERARY QUESTIONS.

FRENCH.

1. Name the most eminent *French prose authors* of the eighteenth century.
2. What are the chief characteristics of the prose writings of Voltaire ?
3. As a critic, did he exercise any influence, and if so, what influence, over the literature of his countrymen ? What was his private character ?
4. What is the most celebrated work of Montesquieu ?
5. How has French literature been affected by his writings ? What is the characteristic feature of his style ?
6. What are the general philosophical views represented in the "Maximes" of Rochefoucauld ?
7. How has French literature been affected by the publication of that work ?
8. When did he die ?

GERMAN.

1. Show (on principles of *comparative philology*) the *etymological identity* between certain *Italian, French, German,* and *English* "*substantive notions*" (ſubſtantive Begriffe), such as: (Ital.) *guanc*-ia, (Germ.) *Wang*-e; (Fr.) *guêp*-e, (Germ.) *Wesp*-e, (Eng.) *wasp ;* (Fr.) *guind*-er, (Germ.) *wind*-en, (Engl.) *to wind ;* (Fr.) *guerr*-e, (Germ.) *Wehr*, implying the notion of *defence,* (hence Engl. *war*) ; (Fr.) *guise,* (high Germ.) *Weise,* (low Sax.) *wiis.* (Engl.) *wise, i.e., fashion ; e.g.,* "Chacun à sa *guise*" (*Every one after his own fashion*) ; (Fr.) *guich*-et, (Engl.) *wick*-et. Add other instances in *Italian, French, German,* and *English,* comparatively.
2. Show, on principles of *comparative grammar,* the analogy observable in the formation of the German word "Schlacht„ (from ſchlag-en), and the English "*slaught*" (retained in "*on-slaught,*" from *slay, y=g*).
3. State what you know of the "Niebelungen."
4. Name some of the works of *Wieland.* When did he write ? What is the school called to which he belonged ?
5. Give such notes respecting *Wincklemann* as you may have gathered from your readings of *Lessing's* "Laokoon."
6. What is meant in German by the *Romantic School ?* Name some of the writers belonging to that school.
7. Trace the general characteristic features of *Goethe's* "Faust."

*** Students who have attended *Danish lectures* may give some *general etymologies* relating to the *Scandinavian* and *Teutonic* branches.

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THIRD YEAR STUDENTS.

*** Senior *Scholarship* Students are expected to engage upon the papers in *any two* of the following languages (*French*, *German*, *Italian*). To Junior Scholarship Students the *French* and *German* portions only are assigned.

Translate into English :—

La Gaule soumise par Jules César se vit associée aux destinées de l'empire. Dechirés jusqu'alors par les rivalités sanglantes de ses peuples divers, elle connut pour la première fois l'unité et le calme d'un gouvernement régulier. Si la conquête avait été atroce, l'administration fut d'abord équitable. César semblait avoir donné Rome aux Gaulois plutôt que la Gaule à Rome: les légions, le sénat même s'ouvrirent pour ces nouveaux sujets de l'empire. "Le droit civil se rapprochant de plus en plus de l'équité naturelle, et par conséquent du sens commun des nations, devint le plus fort lien de l'empire et la compensation de la tyrannie politique.

L'activité inquiète des Gaulois se tourna du côté des lettres : mais ils en embrassèrent surtout la partie lucrative et pratique. Les Gaulois comptèrent peu de philosophes, beaucoup de grammairiens et d'avocats. Le premier rhéteur qui s'établit à Rome fut le Gaulois Guiphon. L'un des orateurs les plus puissants fut aussi un Gaulois, Domitius Afer, accusateur plein d'énergie et courtisan déhonté de Caligula. La Gaule latine produisit des poëtes érudits comme Valérius Caton et Varron d'Atax (de l'Aude), puis des écrivains dont l'élégance égale la corruption, comme le romancier Pétrone. En général toute cette littérature n'est point gauloise, mais romaine: elle reproduit les mœurs et les idées des vainqueurs; mais, étrangère et venue trop tard, elle n'a pu saisir dans le cœur même de Rome le sentiment inspirateur qui a fait l'originalité de la littérature latine, le fier et sublime patriotisme de ces dominateurs du monde ; elle a remplacé par les artifices du langage la simplicité sérieuse de la poésie et de l'éloquence.

Cependant la Gaule souffrait du mal universel de l'empire. La puissance romaine avait pour base l'esclavage : or, l'esclavage, que la guerre ne recrutait plus, devenait stérile par la cruauté des maîtres, comme la liberté par leur infâme corruption. La dépopulation des campagnes était effrayante ; les arts déclinaient rapidement : la fiscalité impériale augmentait d'exigence à mesure que les malheureuses provinces étaient moins capables de la satisfaire. Les forces manquaient aux laboureurs, les champs restaient deserts ; les cultures se changeaient en forêts. Alors les cultivateurs, désespérés par la misère, coururent aux armes, et formèrent, sous le nom de Bagandes, des troupes de vagabonds qui pillaient et brûlaient les campagnes. L'empereur Maximien écrasa ces malheureux, mais le massacre augmenta encore la solitude : le désert s'étendait chaque jour. Le peuple maudissait cette puissance romaine qui ne manifestait plus son action que par des rapines légales. Il tournait avec anxiété ses yeux vers le Nord et invoquait de tous ses vœux les barbares, libérateurs terribles. "Il appelle l'ennemi, disent les auteurs du temps ; il ambitionne la captivité !"

Les barbares en effet devaient sauver les provinces, mais en détruisant l'empire. Il fallait qu'une dissolution universelle fît naître de nouvelles mœurs, de nouvelles institutions. Ici, comme dans toute organisation, une vie nouvelle ne pouvait être achetée qu'au prix de la mort et de toutes ses douleurs.

Clytemnestre. J'ai voulu sur mon sort et sur vos intérêts
Vous dévoiler enfin mes sentimens secrets.
Je rends grâce au destin, dont la rigueur utile
De mon second époux rendit l'hymen stérile,

Et qui n'a pas formé dans ce funeste flanc
Un sang que j'aurais vu l'ennemi de mon sang.
Peut-être que je touche aux bornes de ma vie ;
Et les chagrins secrets dont je fus poursuivie,
Dont toujours à vos yeux j'ai dérobé le cours,
Pourront précipiter le terme de mes jours.
Mes filles devant moi ne sont point étrangères ;
Même en dépit d'Egisthe elles m'ont été chères :
Je n'ai point étouffé mes premiers sentimens ;
Et, malgré la fureur de ses emportemens,
Electre, dont l'enfance a consolé sa mère
Du sort d'Iphigénie et des rigueurs d'un père,
Electre qui m'outrage, et qui brave mes lois,
Dans le fond de mon cœur n'a point perdu ses droits.
Electre. Qui ! vous, Madame, ô Ciel ! vous m'aimeriez encore ?
Quoi ! vous n'oubliez point ce sang qu'on déshonore ?
Ah ! si vous conservez des sentimens si chers,
Observez cette tombe, et regardez mes fers.
Clytemnestre. Vous me faites frémir ; votre esprit inflexible
Se plaît à m'accabler d'un souvenir horrible ;
Vous portez le poignard dans ce cœur agité ;
Vous frappez une mère, et je l'ai mérité.
Electre. Eh bien ! vous désarmez une fille éperdue.
La nature en mon cœur est toujours entendue.
Ma mère, s'il le faut, je condamne à vos pieds
Ces reproches sanglans trop long-temps essuyés.
Aux fers de mon tyran par vous-même livrée,
D'Egisthe dans mon cœur je vous ai séparée.
Ce sang que je vous dois ne saurait vous trahir :
J'ai pleuré sur ma mère, et n'ai pu vous haïr.
Ah ! si le Ciel enfin vous parle et vous éclaire
S'il vous donne en secret un remords salutaire,
Ne le repoussez pas ; laissez-vous pénétrer
A la secrète voix qui vous daigne inspirer ;
Détachez vos destins des destins d'un perfide ;
Livrez-vous tout entière à ce dieu qui vous guide ;
Appelez votre fils ; qu'il revienne en ces lieux
Reprendre de vos mains le rang de ses aïeux,
Qu'il punisse un tyran, qu'il règne, qu'il vous aime,
Qu'il venge Agamemnon, ses filles, et vous-même ;
Faites venir Oreste.

Translate into French or German :—

He now bade adieu to science, and resolved to live for happiness. The death of a relation had just put him in possession of an immense fortune. Since the establishment of the consulate at the head of affairs, society in France had been reorganized in luxury and splendour. In the midst of the trumpets of victory, which were heard from every side, all was joy and festival in Paris. He mixed in society, opulent society—lovely, brilliant society—the society of learning, grace, and wit. He collected it around him—opened to gay youth, rank, and fashion, the doors of his hotel and his saloons. He mixed in the crowd, shared in their amusements and excesses; then in this whirl of busy, idle life, in this great frenzied movement of pleasure, he was astonished not to find happiness.

He had endeavoured to form intimate connexion with men distinguished for their knowledge and wisdom; but he found them weak, ignorant, and full of error. He pitied them,

Translate into English :—

Nachdem es Muhamed, dem Propheten, gelungen war, ſich ganz Arabien zu unterwerfen, und den Geiſt der Tapferkeit, welcher längſt den Arabern einwohnte, noch mehr zu befeuern, bemächtigte nach ſeinem Tode unter ſeinen Nachfolgern ſich der Araber der Geiſt der Eroberung, der wie ein reißender Strom ihre Herrſchaft ſchnell und unaufhaltſam ausbreitete, ſo daß ſchon achtzig Jahre nach dem Tode Muhameds ihr Reich ſich von Aegypten bis Indien, von Liſſabon bis Samarkand erſtreckte. Unaufhörlich währten die Kämpfe der chriſtlichen Franken und Gothen-Reiche in der Pyrenäiſchen Halbinſel gegen die heidniſchen Eindringlinge, und Pipin und Karl der Große wieſen nur mit Mühe ihre Angriffe dieſſeits der Pyrenäen zurück, bis es erſt Ferdinand dem Katholiſchen gelang, ſie gänzlich aus Spanien zu vertreiben. Nicht minder hatten Sarazenen ſich in Sicilien und Kalabrien feſtgeſetzt, und rangen mit Deutſchen, Griechen und Normannen um den Beſitz des ſchönen Landes. Allein wenn auch die Religion als Mittel gebraucht ward, den Heldenmuth der chriſtlichen Kämpfer zu befeuern, ſo galt der Kampf doch weſentlich nur zeitlichen Gütern, dem Beſitz des überkommenen Erbes, der Sicherung des heimiſchen Heerdes, dem Schirm der Familien und der Erhaltung der nationalen Inſtitutionen, Nachdem aber die Seldſchuckiſchen Türken ſich des gelobten Landes bemächtigt hatten, die zahlreich dahin wallfahrtenden Pilgar auf das Härteſte von ihnen bedrängt und grauſam gemißhandelt, die geweihten Oerter, wo der Erlöſer gewandelt, gelehrt und gelitten hatte, ſchimpflich entweiht wurden, da ergriff ein tiefer, ungeheurer Schmerz die ganze Chriſtenheit, und das Zeitalter der Kreuzzüge begann.

Und ſah ich hier mit Staunen nicht zuerſt,
Wie herrlich man den tapfern Mann belohnt?
Als unerfahrner Knabe kam ich her,
In einem Augenblick, da Feſt auf Feſt
Ferrara zu dem Mittelpunkt der Ehre
Zu machen ſchien. O! welcher Anblick war's!
Den weiten Platz, auf dem in ihrem Glanze
Gewandte Tapferkeit ſich zeigen ſollte,
Umſchloß ein Kreis, wie ihn die Sonne nicht
So bald zum zweytenmal beſcheinen wird.
Es ſaßen hier gedrängt die ſchönſten Frauen,
Gedrängt die erſten Männer unſrer Zeit.
Erſtaunt durchlief der Blick die edle Menge;
Man rief! Sie alle hat das Vaterland,
Das Eine, ſchmale, meerumgebne Land,
Hierher geſchickt. Zuſammen bilden ſie
Das herrlichſte Gericht, das über Ehre,
Verdienſt und Tugend je entſchieden hat.
Gehſt du ſie einzeln durch, du findeſt keinen
Der ſeines Nachbarn ſich zu ſchämen brauche!—
Und dann eröffneten die Schranken ſich;
Da ſtampften Pferde, glänzten Helm und Schilde,
Da drängten ſich die Knappen, da erklang
Trompetenſchall, und Lanzen krachten ſplitternd,
Getroffen tönten Helm und Schilde, Staub,
Auf einen Augenblick, umhüllte wirbelnd
Des Siegers Ehre, des Beſiegten Schmach.
O laß mich einen Vorhang vor das ganze,

Mir allzu helle Schauſpiel ziehen, daß
In dieſem ſchönen Augenblicke mir
Mein Unwerth nicht zu heftig fühlbar werde.

Göthe's Taſſo.

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Scholarship Examinations.

Translate :—

Tale era lo stato delle cose, tali erano i fondamenti della tranquillità d'Italia, disposti e contrapesati in modo, che non solo d'alterazione presente non si temeva, ma nè si poteva facilmente congetturare da quali consigli, o per quali casi, o con quali armi s'avesse a movere tanta quiete. Quando nel mese d'Aprile dell' anno MCCCCXCII. sopravenne la morte di Lorenzo de' Medici, morte acerba a lui per l'età (perchè morì non finiti ancora quarantaquattro anni) acerba alla patria laquale per la riputazione sua, e per l'ingegno attissimo a tutte le cose onorate, ed eccellenti, fioriva maravigliosamente di ricchezze e di tutti quei beni ed ornamenti da' quali suole nelle cose umane la lunga pace essere accompagnata, ma o fu morte incomodissima al resto d'Italia così per le altre operazioni, lequali da lui per la sicurtà comune continuamente si facevano, come perchè era mezzo a moderare, e quasi un freno ne' dispareri e ne' sospetti, i quali per diverse cagioni tra Ferdinando e Lodovico Sforza, principi d'ambizione, e di potenza quasi pari spesse volte nascevano.

GUICCIARDINI.

43. Noi leggevamo un giorno per diletto
Di Lancillotto come amor lo strinse :
Soli eravamo e senz' alcun sospetto.
44. Per più fiate gli occhi ci sospinse
Quella lettura, e scolorocci 'l viso :
Ma solo un punto fu quel che ci vinse.
45. Quando leggemmo il disiato riso
Esser baciato da cotanto amante,
Questi, che mai da me non fia diviso,
46. La bocca mi baciò tutto tremante ;
Galeotto fu 'l libro e chi lo scrisse :
Quel giorno più non vi leggemmo avante.
47. Mentre che l'uno spirto questo disse,
L'altro piangeva sì, che di pietade
Io venni meno come s'io morisse ;
E caddi come corpo morto cade.

DANTE—*Inferno*, Canto V.

SCIENCE SCHOLARSHIPS.—FIRST YEAR STUDENTS.

MATHEMATICS.—*Examiner, Professor Purser.*

ARITHMETIC AND ALGEBRA.

1. What sum invested in the three per cents at 91 would yield an annual income of £225, the income tax being previously deducted at 7*d.* in the £1.

2. The sides of a right-angled triangle are 31·217 and 43·304. Calculate to three places of decimals the length of the perpendicular on the hypotenuse.

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—

Scholarship Examinations.

3. State and prove the rules for transforming a circulating decimal into a vulgar fraction and *vice versâ.* Transform $1\cdot\dot{0}1\dot{3}$ into a vulgar fraction and $\frac{5}{7}$ into a circulating decimal.

4. Find the greatest common measure of

$$x^4-7x^3+11x^2+9 \text{ and } 2x^3-x^2-4x-6.$$

Prove the process employed.

5. Solve the equations

$$\alpha.\ \frac{1}{x-1}+\frac{1}{x+7}+\frac{1}{x-3}=0$$

$$\beta.\ \sqrt{x^2+x+4}+\sqrt{x^2-3x+4}=2\sqrt{x^2-x-5}$$

$$\gamma.\ \frac{x}{\sqrt{x}+\sqrt{a-x}}+\frac{x}{\sqrt{x}-\sqrt{a-x}}=\frac{m}{\sqrt{x}}$$

$$\delta.\ \begin{cases} \dfrac{a}{x}+\dfrac{b}{y}=c \\ \dfrac{a'}{x}+\dfrac{b'}{y}=c' \end{cases}$$

6. The roots of the quadratic $x^2+px+g=0$ are α and β; find the quadratic whose roots are $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$.

7. The last term of a series in arithmetic progression is 100, the common difference 3, and the sum of the terms 1647; find the number of terms.

8. Given the sum of two quantities x and y, when is $\frac{1}{x^2}+\frac{1}{y^2}$ least?

9. A crew row 20 miles down a river and 5 miles up in the same time they would take to row the whole distance, twenty-five miles, in still water. The stream flows at 3 miles an hour. Find the time they take.

10. Prove that $\log(x^m)=m\log(x)$; and $\log_a(x)=\dfrac{\log(x)}{\log_e(a)}$

GEOMETRY AND TRIGONOMETRY.

1. Describe an isosceles triangle having each angle at the base double the vertical angle.

2. If two triangles have two sides of the one proportional to two sides of the other, and if the angles opposite to one pair of homologous sides be equal, those opposite the other pair are either equal or are together equal to two right angles.

3. Given vertical angle and area of a triangle, prove that square of bisector of base — square of half-base = constant.

4. Find the locus of a point such that the tangents drawn from it to two given intersecting circles bear to each other a constant ratio.

5. The rectangle under the diagonals of a quadrilateral inscribed in a circle = the sum of the rectangles under the opposite sides.

6. Define accurately the tangent and cotangent of an angle. Prove $\dfrac{\cot\theta-\tan\theta}{\cot\theta+\tan\theta}=\cos 2\theta$.

7. Given $\dfrac{\cos\theta+\sin\theta}{\cos\theta-\sin\theta}=\sqrt{3}$; find θ.

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Scholarship Examinations.

8. Given the vertical angle of a triangle ($\cos C = \frac{3}{4}$) and that the base is a mean proportional between the sides; calculate the ratio of the sides.

9. The three sides of a triangle are a, b, c. Prove that the interval between the feet of the internal and external bisector of the angle $C = \frac{2\,a\,b\,c}{a^2 - b^2}$

10. Prove the formula for the area of a triangle in terms of the sides—

$$\text{area} = \sqrt{s.\,s-a.\,s-b.\,s-c}$$

where $s = \frac{1}{2}(a+b+c)$.

11. If $A+B+C=360°$, prove

$$1-\cos^2 A-\cos^2 B-\cos^2 C+2\cos A\cos B\cos C=0.$$

Second Year Students.

Mathematics.—*Examiner, Professor Purser.*

ALGEBRA, TRIGONOMETRY, &c.

1. Eliminate x, y, z, from the system

$$\begin{cases} yz(y+z)a^3 \\ zx(z+x)=b^3 \\ xy(x+y)=c^3 \\ \quad xyz \quad =m^3 \end{cases}$$

2. Find what relation must subsist amongst the co-efficients of the equation $x^4+px^3+qx^2+rx+s=0$, that it may be capable of being thrown into the form $(x^2+mx)^2+A(x^2+mx)+B=0$.

3. Investigate the condition that the roots of the cube $x^3+qx+r=0$ should all be real.

Find to two places of decimals the real root of the equation—

$$x^3+4x-24=0$$

4. The anterior probability that one clock is right, say to one minute, is (p); the probability that another is right is (q). Both strike the hour together. Find now the probability that they are right.

5. Find the present value of an annuity of £100 to continue for twenty years, interest being computed at five per cent.—being given

$\log(1{\cdot}05) = {\cdot}0211893$ $\qquad$ $\log({\cdot}99753) = \bar{1}{\cdot}9989405.$

6. Eliminate (θ) from the equations

$$x=a\cos(\theta-\alpha) \qquad y=b\cos(\theta-\beta)$$

7. Express in a form adapted to logarithmic computation the bisector of one of the angles of a triangle in terms of the sides.

8. Given $\tan\theta = n\tan\Phi$, prove that θ may be expanded in the series

$$\phi-m\sin 2\,\phi+\frac{m^2}{2}\sin 4\,\phi-\frac{m^3}{3}\sin 6\,\phi+\&c. \text{ where } m=\frac{1-n}{1+n}$$

9. Prove that both $\left(\cos\frac{a}{n}\right)^n$ and $\left(\dfrac{\sin\frac{a}{n}}{\frac{a}{n}}\right)$ approach the limit unity as (n) increases indefinitely.

10. If $R\,r$ be the radii of the circles circumscribed to and inscribed in a triangle, and (δ) the distance between their centres, prove the relation

$$\delta^2=R^2-2Rr.$$

Appendix, *No. 8.* Scholarship Examinations.

11. A person finds that a statue of known height (p), standing on a pillar of unknown height, subtends to him an angle (α), and when he has walked nearer to it a distance (k), it subtends an angle (β). Find his original distance from the base of the lower.

12. Expand $\log(1+x)$ in a series of ascending powers of x.

Sum the series $1+\frac{x}{3}+\frac{x^2}{5}+\frac{x^3}{7}+$, &c., when $x \angle 1$.

CONIC SECTIONS.

To be proved geometrically.

1. Prove that the perpendicular from the focus of a parabola on a tangent is a mean proportional between the line joining the focus to the point of contact and the line joining the focus to the vertex.

2. Prove that the sum of the squares of two conjugate diameters of an ellipse is constant.

3. A quadrilateral circumscribes a circle. Show that with any of its three pairs of opposite vertices as foci, a conic may be described through any other pair.

4. Normals are drawn to an ellipse at the extremities of a focal chord. Prove that a line drawn through their intersection parallel to the major axis bisects the chord.

5. If a right cone be cut by a plane, and a sphere be inscribed in the cone, touching the plane in (F), the curve in which the plane cuts the cone will be a conic, of which F is a focus, and the line in which this plane meets the plane of contact of the cone and sphere the corresponding directrix.

ANALYTICAL GEOMETRY AND THE DIFFERENTIAL CALCULUS.

1. Find the equation of the line joining two points $x'y'$ $x''y''$. Form the equations of the bisectors of the sides of the triangle whose vertices are $x'y'$ $x''y''$ $x'''y'''$, and show that they represent three lines meeting in a point.

2. Find the tangent of the angle between the lines

$$Ax+By+C=0 \qquad A'x+B'y+C'=0.$$

Hence find the equation of the locus of a point xy, such that the lines joining it to the two given points $x'y'$ $x''y''$ intersect at a given angle (α), and show that it represents a circle passing through the given points.

3. The equations of the sides of a triangle are

$$x+y-3=0 \qquad 3x-2y+1=0 \qquad 4x-y+7=0$$

Find (α) the co-ordinates of the vertices of the triangle.

(β) the equations to the perpendiculars at the middle points of the sides.

(γ) the equation of the circumscribing circle.

4. Define a differential co-efficient. Investigate the differential co-efficients of $x^3 \tan x \log x$.

5. Differentiate

$$\sqrt{\frac{x-1}{x+1}} \qquad \frac{x}{(a+bx^n)^{\frac{1}{n}}} \qquad \log\left(\frac{\sqrt{2}+\sqrt{1+x^2}}{\sqrt{2}-\sqrt{1+x^2}}\right)$$

6. Differentiate

$$x^x \qquad \log_x(\sin x)$$

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Scholarship Examinations.

NATURAL HISTORY.—*Examiner, Dr. Wyville Thomson.*

ZOOLOGY.

1. Give the characters of the Cephalopoda. Sketch a classification of the principal recent and fossil genera, and indicate the mode of development of the group.

2. Sketch the general structure of the Crustacea, and mention specially the points of distinction between these and the Annelida, the Arachnida, and the Insecta.

3. Describe the brain of a Fish, and contrast it with that of a Bird.

4. Give a sketch of Huxley's views on the development of the temporal bone.

5. Give an account of the minute structure of voluntary muscle.

6. Describe the relations of the ephippial eggs in Daphnia.

BOTANY.

1. Describe the reproduction and the earlier stages of the development of the Equisetaceæ, the Marsileaceæ, the Lycopodiaceæ, and the Characeæ.

2. Describe the structure and the mode of development of the Fern stem.

3. Describe the structure of an exogenous leaf, its connexion with the stem, and the functions of its various elementary parts.

4. Give an analysis of the subordinate groups of the Leguminosæ.

5. Describe the structure of the genus Lepidodendron, and the relation which it bears to that of the most closely allied recent forms.

6. Sketch the geographical distribution of the genus Pinus.

ENGINEERING SCHOLARSHIPS.—SECOND YEAR STUDENTS.

EXPERIMENTAL PHYSICS.—*Examiner, Dr. Stevelly.*

1. Name the leading or primary qualities of matter. Describe the most important of these, or those from which the definition of matter is taken, and state the experimental proof that matter, or body, is endowed with these properties.

2. Exemplify the three states in which matter may exist, by a reference to the three states in which water is found to exist; and, in the case of water, explain the physical and mechanical circumstances which are known to distinguish each of these states from the other.

3. If the centre of gravity of a heavy body be confined by mechanical resistances to a certain curved surface, but be quite free to move in any direction along that surface, point out the positions in which it would be in equilibrio. Distinguish the states of equilibrium in which it may be found, and show in what direction the unresisted part of its weight would tend to move it, when in other positions.

4. If the tangent screw of a philosophical instrument, which moves either a vernier or a micrometer wire, contain exactly forty threads to the inch, and the head of that screw be divided into twelve equal parts, show through what part of an inch the vernier or micrometer wire will advance or recede by turning the head of the screw through eight divisions.

5. Explain how—from the experimental fact that bodies of every size, and of kinds however various, such as feathers, gold, ivory, stones, &c.,

Appendix, No. 8. — Scholarship Examinations.

fall by gravity, when entirely unresisted, through equal distances in equal times,—it follows that the quantities of inert matter in different bodies are proportional to their weights.

6. At a place where the accelerating force of gravity is 32·222, an unresisted body is observed to fall through 145 feet from rest; find how many seconds it has been falling.

7. Explain why the force of gravity changes as the observer changes his latitude upon the earth. State the nature and investigate the law of that change, on the supposition that the earth is a sphere.

8. The specific gravity of lead is 11·445; find the depth to which the centre of gravity of the under circular surface of a cylinder of lead one inch thick must be depressed beneath the surface of a liquid spirit, specific gravity = 0·9156, so that it shall not fall off from the mouth of an open glass tube of equal diameter, to which it is so closely fitted that no liquid can get above it.

9. Describe the air pump, and explain the law by which the exhaustion of the receiver advances at the successive strokes of the pistons, supposing the barrels exactly equal.

10. Explain minutely how the refractive index of a transparent liquid is determined.

11. Name and describe the three elements of magnetic force, and give an outline of the methods by which each of these is determined, at a given station or place of observation.

12. Explain how a soft iron bar is converted into an electro-magnet, and explain minutely how you know beforehand, which end of the bar will become the pole of the magnet, similar to that end of the needle which points to the north, as soon as the galvanic current is transmitted.

GEOMETRICAL DRAWING.—*Examiner, Professor James Thomson.*

1. Given a straight line and a point by their projections; explain how to draw a plane passing through the given line and point.

2. To find the angle between two straight lines which intersect each other, their projections being given. A method more generally applicable than that in Hall's Descriptive Geometry will be preferred.

3. Given the projections of a straight line, to find the angles which it makes with the planes of projection.

4. Explain the peculiar character of Isometric Drawing, and, recollecting that as a general rule, an object is not completely determined by a single projection, but that for its determination two projections of it are ordinarily required, show how it is that an isometric drawing can often be used to indicate satisfactorily the dimensions of a solid object.

5. Work out a numerical expression for the length of the isometric projection of a line which is itself a unit in length. If you bring the result out as a decimal fraction you need not go to more than three figures.

6. Taking the metre as equal to 3·28 English feet, draw a line with decimetres and centimetres (or tenths and hundreds of a metre) accurately marked along it, using a rule or scale of English inches and fractions of an inch.

7. Supposing that a French drawing were given, in which a line of the following length

represents half a metre, construct a scale for giving measurements in English feet and inches from the same drawing.

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Scholarship Examinations.

8. Explain the principle of the vernier, and show how two vernier scales, differing from one another in the lengths of their divisions, may be constructed, each adapted to give readings to $\frac{1}{10}$th of a division of the primary scale.

9. Describe an ellipse, having its major axis 2 inches, and its minor axis $1\frac{1}{4}$ inches, and show more than one process correct in principle for describing an ellipse when its major and minor axes are given.

10. Explain why it is that a truly-drawn picture, which, for example, you may consider to be that of a geranium or other small plant with numerous branches, some extending in front of others, cannot be seen as at all a true representation of the plant, with branches at various distances in space, by an observer looking with both eyes; while the same picture might be viewed simultaneously by two persons, each looking with only one eye, without any fault of a corresponding kind arising, and with only little fault of any kind whatever.

11. Is it correct to designate the point in which a perpendicular from the eye-point to the picture meets the picture, as the "centre of view;" and to say that, in order to see the picture truly, the eye ought to be specially directed to that point, and that the angular extent of the picture round the visual ray coming from that point to the eye, ought to be fixed with reference to the angular extent of distinct and easy vision of the eye. State also what you assign as the chief reason for practically limiting the angular extent of view for which a picture may properly be made.

[Note.—In the following questions on shadows you are to assume the light to fall in a direction commonly used in the projection of shadows, and to indicate distinctly, by projections or otherwise, the direction you adopt for the light.]

12. A niche formed as a vertical hollow semi-cylinder, with flat top, is sunk in a vertical wall face. The front edge of the flat top being level, and in the plane of the wall face, is consequently a diameter of the cylinder of the niche. Draw such a niche, taking the wall face parallel to the vertical plane of projection, and draw the shadow in it. Also, explain clearly your process for finding the outline of the shadow.

13. A sphere 1 inch in diameter is placed with its centre $2\frac{1}{4}$ inches above the horizontal plane of projection, and $1\frac{1}{3}$ inch out in front of the vertical plane of projection. Draw its shadow cast on the vertical plane of projection, and explain your process.

Geology.—*Examiner, Dr. Wyville Thomson.*

1. State what you know as to the composition, structure, and mode of occurrence of Granite.

2. Give the subdivisions of the Jurassic system (in Britain), and name two fossils characteristic of each of these subdivisions.

3. Name the fossil genera peculiar to the Lingula flags (in Britain), and the genera common to these beds and to the higher beds of the lower Silurian series.

4. Describe the structure of a Belemnite, and refer it to its zoological position.

5. Sketch the range in geological time of the genus Ammonites.

6. Sketch the leading geological features of the South American continent, and their influence upon climate.

7. Give the composition of the principal ores of silver, and state the localities where they are severally procured.

Appendix, No. 8.

Scholarship Examinations.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. How is the maximum density point of water determined?

2. Describe the method of determining the expansion of gases by heat. State also the results of recent experiments on the expansive action of heat on different gases.

3. Calculate the volume and weight of aqueous vapour in 20 cubic inches of air, standing over water at the temperature of 60° F., and under a pressure of 30 inches. (Tension of aqueous vapour at 60°, 0·52 in. Weight of 100 cub. in. air at 60° and 30 in., 31 grains. Density of vapour of water, 0·625).

4. The atomic weight of iron is 28; its specific heat, 0·114. Calculate from Dulong and Petit's law the specific heats of cadmium (at. wt. 56) and of mercury (at. wt. 100). State also what changes require to be made in some of the commonly received atomic weights, to render this calculation always applicable.

5. Describe the process of distillation, and how it may be applied to the separation of a mixture of two or more liquids.

6. Give a general account of the elementary bodies, and classify them according to their chemical properties.

7. The following bodies combine with oxygen, when they are heated in an excess of that gas; write the symbol of the compound which is formed in each case, and state one or two of its characteristic physical characters:—phosphorus, sulphur, carbon, boron, potassium, magnesium, aluminium, iron, copper, arsenic, baryta.

8. How would you determine the amount of the following bodies in atmospheric air:—aqueous vapour, carbonic acid, ammonia?

9. Describe the action of nitric acid of sp. gravity 1·3, upon metallic copper, or mercury, when heated gently with those metals, and also the reaction which takes place when the same acid, in a more dilute state, acts slowly upon zinc or tin.

10. Give an account of the preparation of carbonic oxide from carbonate of lime, and also from the oxalic and formic acids. Give also an account of its principal properties, and of the action of chlorine upon it.

11. Give a general account of the preparation of coal gas, and mention the gases which are ordinarily present in it, stating those which chiefly contribute to its illuminating power.

12. State the composition and chief properties of sulphuretted hydrogen, and describe the method of decomposing it so as to get rid of its noxious properties when it accumulates in sewers.

13. Give a short account of spectrum analysis, and mention the characteristic lines of sodium, rubidium, cæsium and lithium.

14. What is the composition of an hydraulic lime?

15. Describe the chief ores of iron, and the method followed in this country to obtain cast iron.

16. How is steel prepared, and what is its composition?

17. Give an account of the mode of extracting from its ores any one of the following metals:—zinc, tin, copper, mercury, or silver.

18. Describe the thunder rod, and the precautions to be attended to in its construction.

19. Give an account of Daniell's battery, and of the chemical reactions which occur in each of its cells.

20. Describe the method of obtaining induced currents of electricity from a permanent magnet.

21. State Ohm's law, and illustrate it by an example.

MEDICAL SCHOLARSHIPS.—SECOND YEAR STUDENTS.

Scholarship Examinations.

CHEMISTRY.—*Examiner, Dr. Andrews.*

1. How is the maximum density point of water determined?

2. Describe the method of determining the expansion of gases by heat. State also the results of recent experiments on the expansive action of heat on different gases.

3. Calculate the volume and weight of aqueous vapour in 20 cubic inches of air, standing over water at the temperature of 60° F., and under a pressure of 30 inches. (Tension of aqueous vapour at 60°, 0·52 in. Weight of 100 cub. in. air at 60° and 30 in., 31 grains. Density of vapour of water, 0·625).

4. The atomic weight of iron is 28; its specific heat, 0·114. Calculate from Dulong and Petit's law the specific heats of cadmium (at. wt. 56), and of mercury (at. wt. 100). State also what changes require to be made in some of the commonly received atomic weights, to render this calculation always applicable.

5. Describe the process of distillation, and how it may be applied to the separation of a mixture of two or more liquids.

6. Give a general account of the elementary bodies, and classify them according to their chemical properties.

7. The following bodies combine with oxygen, when they are heated in an excess of that gas; write the symbol of the compound which is formed in each case, and state one or two of its characteristic physical properties:—phosphorus, sulphur, carbon, boron, potassium, magnesium, aluminium, iron, copper, arsenic, baryta.

8. How would you determine the amount of the following bodies in atmospheric air:—aqueous vapour, carbonic acid, ammonia?

9. Describe the action of nitric acid of sp. gravity 1·3, upon metallic copper, or mercury, when heated gently with those metals, and also the reaction which takes place when the same acid, in a more dilute state, acts slowly upon zinc or tin.

10. Give an account of the preparation of carbonic oxide from carbonate of lime, and also from the oxalic and formic acids. Give also an account of its principal properties, and of the action of chlorine upon it.

11. State the composition of marsh gas, the sources, natural and artificial, from which it may be procured, and describe its eudiometric analysis.

12. Explain in symbols, the reactions which occur when sulphuretted hydrogen is prepared from sulphide of iron and also from sulphide of antimony. State also the reactions when the same gas is passed through acid solutions of the oxide of antimony, and of the arsenious and arsenic acids.

13. Write the formula of Dutch liquid. Describe its preparation, and mention the compound into which it is converted when it is exposed to the action of an excess of chlorine gas in the sun's rays.

14. What are the tests of hydrocyanic acid?

15. Give a short account of spectrum analysis, and mention the characteristic lines of sodium, rubidium, cæsium, and lithium.

16. State the composition and mode of preparing the antimoniuretted and arseniuretted hydrogen gases. Describe their properties, and the methods of distinguishing them from one another.

17. Give an account of the compounds of chlorine and mercury.

18. State the relations in composition and properties between pyroxylic spirit and alcohol, and mention how these bodies may be distinguished from one another.

19. What are the tests of diabetic sugar?

20. Calculate the centesimal composition of the hydrated acetic acid and of the acetate of silver (Ag. 108).

Appendix, No. 8.

Scholarship Examinations.

21. Mention the more important volatile alcaloids, the elements which they contain, and their supposed relation in composition to ammonia.

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1. Explain the meaning of the terms isomorphism and dimorphism, and cite some of the more important examples of isomorphous and dimorphous bodies.

2. Describe the method of determining the amount of heat developed in the combination of bodies in oxygen gas.

3. State the reactions which occur when the soda salts of the three varieties of the phosphoric acid are decomposed by nitrate of silver.

4. Give the composition, mode of preparation, and characteristic properties of the sulphocyanide of potassium.

5. Mention briefly the distinguishing characters of the alkaline metals, rubidium, cæsium, potassium, and lithium.

6. Describe shortly the changes produced in cast iron by the "finery" and puddling processes.

7. Calculate from its formula the theoretical density of common ether, and show how it may be reconciled with the densities of the other members of the ethyl series. State also how the double ethers discovered by Williamson bear upon this subject.

8. Give an account of Gerhardt's notation, and of the types to which he refers all chemical bodies, writing, according to this system, the formulas of the following compounds:—ethyl, marsh gas, hydrochloric ether, alcohol, acetic ether, hydrated acetic acid, acetic anhydride ($c{=}12$, $0{=}16$).

9. Describe the formation by synthesis of formic acid and of alcohol.

10. What is the composition of glycerine, and to what class of bodies does it belong?

11. How would you discover the presence of potash in a silicious mineral not acted on by hydrochloric acid?

12. Calculate the centesimal composition of an organic body, which, on analysis, gave the following results:—

$\overset{\text{gm.}}{0{\cdot}500}$ gave $\overset{\text{gm.}}{0{\cdot}104}$ water, and $\overset{\text{gm.}}{0{\cdot}834}$ carbonic acid.

$\overset{\text{gm.}}{0{\cdot}392}$ gave $\overset{\text{gm.}}{0{\cdot}295}$ chloride of silver.

$\overset{\text{gm.}}{0{\cdot}435}$ gave 27 cubic centimetres of nitrogen gas, at the temperature of 12° C., and under a pressure of 30 inches, the gas being saturated with moisture.

(Atomic weight of silver, 108; at. wt. chlorine, 35·5; 100 cubic centimetres of dry nitrogen gas at 0° C., and a pressure of 30 inches, weigh 0·125 gm. nearly. Tension of watery vapour at 12° C., 0·41 inches mercury. Coefficient of expansion of nitrogen for 1° C., 0·00366.)

(In the second period the Candidates were required to perform qualitative analyses in the laboratory.)

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

1. Name the specimens numbered 1, 2, 3, 4, 5, and 6. State from which side of the body each was obtained, and mention the characteristic markings on which your opinion is based.

2. Describe the movements called circumduction and rotation, and mention joints in which each of these movements occurs without the other, and some which admit of both movements.

3. Define the terms flexibility, extensibility, contractility, sensibility,

elasticity, and sensation, and give illustrations of each by mentioning an animal tissue to which it may be applied.

4. Describe the structural changes and the other phenomena which attend the action of muscular tissue; also the phenomena which occur in muscles after respiration and circulation have ceased.

BOTANY.—*Examiner, Dr. Wyville Thomson.*

1. Name the plants from which the following products are derived:—Lactucarium, Colchicum, Gum Kino, Senna, Aconitine, Conia, and Elaterium. Refer them to their several natural orders.

2. Give the characters of the natural orders Compositæ and Umbelliferæ; and of their subordinate groups.

3. Describe the successive development of the parts of a pentamerous thalamifloral flower, and state the relations in position which these parts bear to one another.

4. Describe the flower, the ovule, and the seed in Wheat.

5. Give a sketch of the geographical distribution of the Palms.

ZOOLOGY.

1. Contrast the structure of the sphenoidal, parietal, occipital, and frontal elements in the skull of Man and of a bony Fish.

2. Describe the characteristic form of the Actinozoa.

3. Describe the respiratory apparatus in Insects.

4. Enumerate the glands which in succession pour their secretions into the alimentary canal of a Mammal, and state the nature and reactions of these secretions severally.

5. Describe the structure and functions of the kidney (in Mammals).

THIRD YEAR STUDENTS.

ANATOMY AND PHYSIOLOGY.—*Examiner, Dr. Redfern.*

1. Name the specimens numbered 1, 2, 3, 4, 5, and 6. State from which side of the body each was obtained, and mention the characteristic markings on which your opinion is based.

2. Describe the internal lateral ligament of the ankle, elbow, and radio-carpal joints.

3. Give a careful account of such experiments as will demonstrate whether a particular nerve be motor, sensory, or compound; and state in what way you are able to judge in what direction motor and sensory impulses are transmitted along nerves.

4. What means are adopted in the human eye for the correction of the distantial, spherical, and chromatic aberrations, and how do they operate?

5. Mention the constituents of the blood which you consider to be of great importance in the economy, and illustrate their importance by describing the results of excess or deficiency of each in turn.

PRACTICAL CHEMISTRY.—*Examiner, Dr. Andrews.*

1. Describe the analysis of a double carbonate of lime and magnesia.

2. The chief constituents of sea water are the chlorides of sodium, magnesium, and potassium, and the sulphates of magnesia and lime. How would you proceed to test for the presence of these bodies?

Appendix, No. 8.

Scholarship Examinations.

3. What are the blow-pipe tests for sodium, manganese, cobalt and copper?

4. What are the tests for lead in solution; and how would you estimate the amount of lead in a solution containing only small quantities of that metal?

5. A white powder contains a mixture of the arsenious acid and calomel. How would you analyze it?

6. How is the hydrated sesquioxide of iron prepared from the sulphate of the protoxide? Explain by symbols the successive steps of the process, and state the composition of the hydrated sesquioxide itself.

7. Certain metallic solutions yield precipitates on dilution with water. Mention them, and state how they are distinguished from one another.

8. Describe any one method for separating arsenious acid from solutions containing organic matter.

9. Describe the preparation of hydrocyanic acid, its tests, and the method of determining the strength of a dilute solution.

10. Describe the preparation of urea from urine, and give a general account of Liebig's method of determining its amount in that secretion.

11. How is strychnine prepared, and what are its tests?

12. Describe the action of heat on the principal varieties of human calculi.

ANATOMY.—*Examiner, Dr. Redfern.*

1. Name the specimens numbered 1, 2, 3, 4, 5, and 6. State from which side of the body each was obtained, and mention the characteristic markings on which your opinion is based.

2. State the special action, at the shoulder, of each muscle which moves the upper limb at that joint, and the manner in which those muscles are grouped for the performance of combined actions.

3. Mention the branches of the brachial and lumbar plexuses of nerves in the order of their relative size in each plexus respectively.

4. State the steps of a dissection which will expose the pronator quadratus muscle, and describe the appearances and position of each part sufficiently to enable it to be recognised as it appears in its proper order in the dissection.

PHYSIOLOGY.

1. Give a short account of the nature of the processes of nutrition, secretion, excretion, and regeneration of tissue, and state in what respects they resemble each other.

2. What are the causes of the sounds of the heart; and what is the relation, in point of time, of these and the other phenomena connected with the propulsion of a certain quantity of blood through the heart's cavities?

3. What differences have been observed in the characters of the blood of the same person at different periods of the day, and what do they indicate?

4. How, and to what extent, are the characters of the urinary secretion influenced by the diet ordinarily taken during the day,—by exercise, age, and other physiological conditions.

5. What are the differences in the structure and action of the retina in the axis of vision, and at the point of entrance of the optic nerve.

Fourth Year Students.

Medical Jurisprudence.—*Examiner, Dr. Hodges.*

1. State the average period at which death takes place in cases of acute poisoning by sulphuric acid, and describe the methods required for the detection of free sulphuric acid in the contents of the stomach when sulphate of magnesia is also present.

2. How is the earth of cemeteries to be examined for the detection of arsenic?

3. Give an account of the method to be employed in the examination of stains on cloth, supposed to have been produced by sulphuric acid.

4. Describe the processes required in the examination of supposed blood-stains on linen.

5. Mention the precautions to be observed in receiving "dying declarations."

6. State the properties of Nicotine, and the methods required for its detection in animal liquids.

7. In what doses are the following substances capable of producing death:—Corrosive Sublimate, Arsenious Acid, Tartar Emetic, Strychnine, Opium, Oil of Bitter Almonds, Phosphorus, Powder of Nux Vomica.

Law Scholarships.

Political Economy.—*Examiner, Professor Leslie.*

1. "High or low wages and profit" says Adam Smith, "are the *causes* of high or low price; high or low rent is the *effect* of it." Show the truth of this in connexion with the doctrines of *cost of production* and *rent.*

2. Prices are sometimes spoken of as dependent on *supply* and *demand,* and sometimes as dependent on *cost of production.* Is there anything inconsistent in the two statements or not; and why?

2. In a note on Chapter XI., Book I., of "The Wealth of Nations," Mr. MacCulloch says: "No surplus will go to the landlord, *unless the fields under cultivation be of different productive powers.* The best lands will never yield any rent, unless inferior lands be taken into tillage." Point out both the truth and error in the statement.

4. Explain Mr. Mill's statement that "profits depend on the cost of labour;" and if you know of any objection that has been made to it, give your reasons for adopting or dissenting from that objection.

5. State concisely Mr. Mill's doctrine of *international values.*

6. How does this doctrine bear on the theory of *prices?*

7. When mines of silver and gold of extraordinary fertility are discovered, what is the process by which the value of these metals finds its level, first in the mining countries, and subsequently in other countries?

8. Do all international purchases lead to the transmission of the precious metals; and if not, under what circumstances do they lead to it?

9. Explain the effect of a "joint cost of production" on the prices of two things, and give examples.

10. State concisely the substance of Mr. Mill's criticism of the Bank Charter Act.

11. Upon what causes will the future price of linen depend?

12. Upon what causes will the future price of land near Belfast depend?

Jurisprudence.—*Examiner, Professor Leslie.*

1. What is Adam Smith's account of the origin of the law of Primogeniture and Entails in modern Europe?

2. (*a*) What has been, according to Adam Smith, the effect upon agriculture in England of the law of Primogeniture and Entail?

(*b*) Can you show that the present law of partition in France tends to produce some similar evils?

3. How did laws more favourable to industrial progress in towns than in the country arise, according to Adam Smith?

4. What is the historical connexion between the laws of modern Europe and those of ancient Rome?

5. State and criticise Locke's theory of the origin of the right of property.

6. (*a*) What is, according to Mr. Jebb, the proper foundation of the right of inheritance?

(*b*) Do you think his reasoning sound or not, and why?

7. What are, according to Lord Bacon, the main sources of uncertainty in the law, and what remedies has he suggested?

8. (*a*) Define Positive Law. (*b*) Is International Law positive or not, and why?

9. (*a*) What is meant by Constitutional Law, according to Austin?

(*b*) Is there any distinction between the terms *unconstitutional* and *illegal*?

10. What, according to Austin and Paley respectively, is the proper definition of *Civil Liberty*?

11. What is a *limited monarchy*?

12. Is it true that the supreme *executive* power resides in the Crown, and the supreme *legislative* power in Parliament?

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1. Explain and give examples of the early attention to law of progressive societies.

2. Trace the origin of the opposition to the principles of Roman Law in England, and the effects upon the English legal system.

3. State and criticise Blackstone's theory of the origin of the right of property.

4. (*a*) Give an account of the origin and purpose of testaments in Ancient Rome.

(*b*) How do you account for the adoption of the principles of Roman Law, in reference to wills of *personal property* in England, at a period when lands were not devisable?

5. What does Austin mean by General Jurisprudence? Give examples illustrating his meaning of the science.

6. What is meant by Constitutional Law?

7. What is meant by Limited Monarchy?

8. Compare the origin of the distinction between Law and Equity in Ancient Rome and England.

9. Explain the connexion between Roman Law and Modern International Law.

10. Mr. Maine states that the chief object of his treatise is "to indicate some of the earliest ideas of mankind, as reflected in Ancient Law, and to point out the relation of those ideas to modern thought." Show by some examples the manner in which Mr. Maine has illustrated the relation in question.

11. (*a*) "The history of Roman Property Law is the history of the assimilation of Res Mancipi to Res Nec Mancipi." Explain this.

(*b*) What analogous change has taken place in modern times in the law of the continent of Europe?

12. Explain the distinction between *jura in rem* and *jura in personam*, and give examples.

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